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WILDLIFE REVIEW

NUMBER 134 JUNE 1969

UNITED STATES DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE

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WILDLIFE REVIEW

An abstracting service for wildlife management
Issued for the information of cooperators
by the Bureau of Sport Fisheries and Wildlife
Fish and Wildlife Service
UNITED STATES DEPARTMENT OF THE INTERIOR

June 1969 Patuxent Wildlife Research Center, Laurel, Md. 20810 No. 134

Use of funds for printing this publication approved
by the Director of the Bureau of the Budget, September 30, 1965.

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NATURAL RESOURCES & CLIMATE

Anderson, M. E., and others. BIG SIOUX RIVER BASIN / A CONSOLIDATION OF NATURAL RESOURCE INFORMATION ON THE BIG SIOUX RIVER, SOUTH DAKOTA. S. Dak. Dept. Game, Fish & Parks. 90 p. 1 Dec. 1968. WR 134: 2
With a section on wildlife resources, including furbearers, waterfowl, and upland game.

Johnson, Merle W. A BIOLOGICAL SURVEY OF THE CROW WING RIVER MAIN-STEM WATERSHED, CASS, WADENA, HUBBARD AND MORRISON COUNTIES. Minn. Dept. Conserv. Spec. Publ. no. 56. 46 p., 9 figs. + 2 fold-out maps. Sept. 1968. WR 134: 2
With a section on wildlife resources.

Petrides, George A. ADVISORY REPORT ON WILDLIFE AND NATIONAL PARKS IN NIGERIA / 1962. Am. Com. Intern. Wild Life Protection Spec. Publ. no. 18. 48 p., illus. 1965. WR 134: 2
[Mich. State Univ., East Lansing.] The report on Nigeria's wildlife resources includes status of the wildlife, evidences of depletion, causes of the present scarcity, and suggestions for restoring the wildlife resource.

SOILS

Allgood, Ferris P., and others. SOIL SURVEY OF MAJOR COUNTY, OKLAHOMA. SCS. i + 84 p., 30 figs. + single-fold maps based on aerial photos and bound in. 31 Oct. 1968. Sold by Supt. Documents. WR 134: 2
With a section on wildlife.

Brown, Jack R., and others. SOIL SURVEY OF JENKINS COUNTY, GEORGIA. SCS. i + 61 p., 17 figs. + single-fold maps based on aerial photos and bound in. Dec. 1968. Sold by Supt. Documents. WR 134: 2
With a section on the use of soils for wildlife.

Dance, Ray E., and others. SOIL SURVEY OF EAST BATON ROUGE PARISH, LOUISIANA. SCS. i + 80 p., 6 figs. + single-fold maps based on aerial photos and bound in. Sept. 1968. Sold by Supt. Documents. WR 134: 2
With a section on the use of the soils for wildlife.

Fisher, Carl F., and John V. Chelf. SOIL SURVEY OF OKLAHOMA COUNTY, OKLAHOMA. SCS. i + 56 p., 14 figs. + single-fold maps based on aerial photos and bound in. Feb. 1969. Sold by Supt. Documents. WR 134: 2
With a section entitled: wildlife and fish.

SOILS--Continued

Kelsey, Theodore L., and others. SOIL SURVEY OF BELKNAP COUNTY, NEW HAMPSHIRE. SCS. i + 68 p., 9 figs. + single-fold maps based on aerial photos and bound in. Nov. 1968. Sold by Supt. Documents. WR 134: 3
With a section on soils in wildlife management.

Larsen, Roy J., and others. SOIL SURVEY OF CROWLEY COUNTY, COLORADO. SCS. i + 70 p., 22 figs. + single-fold maps based on aerial photos and bound in. Nov. 1968. Sold by Supt. Documents. WR 134: 3
With a section on management of soils for wildlife.

Long, Roscoe M. SOIL SURVEY OF HUGHES COUNTY, OKLAHOMA. SCS. i + 48 p., 19 figs. + single-fold maps based on aerial photos and bound in. Dec. 1968. Sold by Supt. Documents. WR 134: 3
With a section on wildlife and fish.

Polone, Dock J. SOIL SURVEY OF WASHINGTON COUNTY, OKLAHOMA. SCS. i + 42 p., 15 figs. + single-fold maps based on aerial photos and bound in. Nov. 1968. Sold by Supt. Documents. WR 134: 3
With a section on wildlife.

Robertson, Stanley M. SOIL SURVEY OF CLARKE AND OCONEE COUNTIES, GEORGIA. SCS. i + 55 p., 12 figs. + single-fold maps based on aerial photos and bound in. Nov. 1968. Sold by Supt. Documents. WR 134: 3
With a section on the use of the soils for wildlife.

Wulforst, John P., and others. SOIL SURVEY OF GENESEE COUNTY, NEW YORK. SCS. i + 179 p., 15 figs. + single-fold maps based on aerial photos and bound in. Mar. 1969. Sold by Supt. Documents. WR 134: 3
With a section on wildlife.

Yost, Donald A., and others. SOIL SURVEY OF SCOTTS BLUFF COUNTY, NEBRASKA. SCS. i + 119 p., 18 figs. + single-fold maps based on aerial photos and bound in. Dec. 1968. Sold by Supt. Documents. WR 134: 3
With a section on use of soils for wildlife and recreation.

CONSERVATION EDUCATION

Canadian Wildlife Service. HINTERLAND WHO'S WHO. Canadian Wildl. Serv. Illus. 1968. WR 134: 3
A series of 8.5" x 11" folded leaflets with 4-6 pages, each containing information on a different animal. The caribou, bats, Canada goose, whooping crane, black bear, red fox, white-tailed deer, and herring gull are available.

BIBLIOGRAPHIES, DIRECTORIES, BIOGRAPHY, HISTORY

Havlíková, Jarmila, and Stanislav Lusk. SEZNAM PUBLIKACÍ VĚDECKÝCH PRACOVNÍKŮ ÚSTAVU PRO VÝZKUM OBRATLOVCŮ ČSAV V BRNĚ ZA LÉTA 1955-1966. [LIST OF PUBLICATIONS BY SCIENTIFIC WORKERS OF THE INSTITUTE OF VERTEBRATE ZOOLOGY, CAS, BRNO IN 1955-1966.] Vertebratol. Zprávy 1967(1): 20-36. 1967. In Czech with English abstr. WR 134: 3
Original scientific papers, scientific reports, handbooks and books arranged according to sections: mammalogy, ornithology, ichthyology, parasitology and epidemiology, diversa, and books. Titles are given in the language in which the paper has been published. Summary titles are also given.--From abstr.

Křivánková, R. SEZNAM PUBLIKACÍ VĚDECKÝCH PRACOVNÍKŮ ÚSTAVU PRO VÝZKUM OBRATLOVCŮ ČSAV V BRNĚ ZA ROK 1967. [LIST OF PUBLICATIONS BY SCIENTIFIC WORKERS OF THE INSTITUTE OF VERTEBRATE ZOOLOGY, CAS, IN BRNO IN 1967.] Vertebratol. Zprávy 1968(1): 16-18. 1968. In Czech. WR 134: 3

Sprunt, Alexander IV. IN MEMORIAM: ROBERT PORTER ALLEN. Auk 86(1): 26-34, 1 fig., 1 pl. Jan. 1969. WR 134: 4
[Natl. Audubon Soc., Tavernier, Fla.] Courtesy/ Paul A. Stewart.

PLANTS--GENERAL, ECOLOGY, TECHNIQUES

Joanen, Ted, and Leslie L. Glasgow. FACTORS INFLUENCING THE ESTABLISHMENT OF WIGEONGRASS STANDS IN LOUISIANA. Proc. 19th Ann. Conf. SE Assoc. Game & Fish Comms. p. 78-92. 1965 [1966]. WR 134: 4
[La. Wild Life & Fisheries Comm., Grand Chenier.] Physical factors such as turbidity, fluctuating water levels, and water depth were found to be controlling factors in the establishment of new stands and also to the development and production of mature stands of wigeongrass. Correlations were found between water depth, turbidity, and vegetative production. The greatest production was obtained at the 24-inch water level. A generalized range of turbidity which will allow wigeongrass growth in ponds with water depths less than 24 inches, as found in this study, is from 25 ppm to 54 ppm. Chemical factors, such as per cent of soluble salts, inhibited seed germination probably by increasing the osmotic pressure of the soil solution so that the plants had difficulty in getting water. Salinity in the soil surface zones was most important because germination and establishment of seedlings were critical stages which had to take place on the soil surface. Soluble salts present in the soil which exceed 1.12% are extremely harmful to germination of wigeongrass seeds. The most important biotic factor affecting plant growth was algae cover. Algae overshadowed and crowded out wigeongrass by reducing the light. It was also observed that waterfowl utilization was reduced in these areas.--From summ.

Palmisano, Angelo W., Jr., and John D. Newsom. ECOLOGICAL FACTORS AFFECTING OCCURRENCE OF SCIRPUS OLNEYI AND SCIRPUS ROBUSTUS IN THE LOUISIANA COASTAL MARSHES. Proc. 21st Ann. Conf. SE Assoc. Game & Fish Comms. p. 161-172, 5 figs. 1967 [1968]. WR 134: 4
[La. State Univ., Baton Rouge.]

WILDLIFE--BIOTAS, ECOLOGY, NATURAL HISTORY

Cain, Stanley A. THE IMPORTANCE OF ECOLOGICAL STUDIES AS A BASIS FOR LAND-USE PLANNING. IUCN Bull. New Ser. 2(8): 57-58, 64. July/Sept. 1968. WR 134: 4
Text of an address; examples of projects that have failed through lack of ecological knowledge are given.

WILDLIFE--NATURAL AREAS & REFUGES

Blackmore, M., compiler. THE NATURE CONSERVANCY / HANDBOOK 1968. Nat. Environment Res. Council SBN 11 880301 8. 47 p., 11 [figs.]. 1968. Five shillings. WR 134: 4
National nature reserves, local nature reserves, forest nature reserves, and national wildlife refuges in England, Scotland, and Wales are listed individually and described (acreage, general ecology).

WILDLIFE--NATURE PROTECTION & RARE & EXTINCT SPECIES

Bureau of Sport Fisheries and Wildlife. HAWAII'S ENGANGERED WILDLIFE. 18 p., illus. Dec. 1968. WR 134: 4
[P.O. Box 3737, Portland, Oreg., or P.O. Box 698, Kailua, Hawaii.] Account of Hawaii's 27 spp. of endangered native birds and two endangered species of mammals. The remaining populations are protected on the Hawaiian Islands National Wildlife Refuge.

Vincent, Jack, compiler. LIST OF EXTINCT BIRDS APPEARING IN THE RED DATA BOOK, VOLUME 2, BUT HERE LISTED COUNTRY BY COUNTRY, OR, IN THE CASE OF ISLAND SPECIES, UNDER OCEANIC REGIONS. DATES OF DISAPPEARANCE ARE SHOWN AFTER THE TRIVIAL NAMES. IUCN Bull. New Ser. Suppl. 2(8). 4 p. July/Sept. 1968. WR 134: 5
List of 162 spp.

WILDLIFE--EFFECTS OF CHEMICALS, WEATHER, CARS, ETC.

Bailey, S., P. J. Bunyan, B. D. Rennison, and A. Taylor. THE METABOLISM OF 1,1-DI(P-CHLOROPHENYL)-2,2-DICHLOROETHYLENE AND 1,1-DI(P-CHLOROPHENYL)-2-CHLOROETHYLENE IN THE PIGEON. Toxicol. & Appl. Pharmacol. 14(1): 23-32. Jan. 1969. WR 134: 5
[Min. Agr. Fisheries & Food, Tolworth, Surrey, England.] Effects and kinetics of heavy dietary dosages of DDE and DDMU; also comments on the metabolism of DDT.

Bailey, S., P. J. Bunyan, B. D. Rennison, and A. Taylor. THE METABOLISM OF 1,1-DI(P-CHLOROPHENYL)-2,2,2-TRICHLOROETHANE AND 1,1-DI(P-CHLOROPHENYL)-2,2-DICHLOROETHANE IN THE PIGEON. Toxicol. & Appl. Pharmacol. 14(1): 13-22. Jan. 1969. WR 134: 5
[Min. Agr. Fisheries & Food, Tolworth, Surrey, England.] DDT was shown to be eliminated from all tissues at the same rate (half-life 28 days) and gave rise to DDE and DDD by separate pathways. DDD was shown to be eliminated from all tissues at a similar rate (half-life 24 days) and gave rise mainly to DDMU together with a very small amount of DDE. Large increases in average liver weights were noted in birds fed DDT. With the DDD-fed birds the increase in liver weight was very slight.--From abstr.

Baxter, William L., Raymond L. Linder, and Robert B. Dahlgren. DIELDRIN EFFECTS IN TWO GENERATIONS OF PENNED HEN PHEASANTS. J. Wildl. Mgmt. 33(1): 96-102. Jan. 1969. WR 134: 5
[Nebr. Game, Forestation & Parks Comm., Lincoln.] Abstract: Effects of encapsulated dieldrin fed to penned hen pheasants (Phasianus colchicus) were studied through two generations. First-generation hens received 0, 2, 4 and 6 mg of dieldrin per week for 13 weeks. Hens which were offspring of these 0, 4 and 6 mg treated groups received 0 or 6 mg per week for 14 weeks. Effects of dieldrin were evaluated by measuring food consumption, weight, and egg production of hens, fertility and hatchability of eggs, and survival, weight gain, and behavior of chicks. No mortality occurred in first-generation hens but among second-generation hens there was mortality in all groups receiving dieldrin. None occurred in controls. Food consumption was lower in the 6 mg group of first-generation hens and there was also lower egg production. The same effects were noted in groups of second-generation hens. Fertility and hatchability of eggs were significantly lower in groups where hens received dieldrin via the egg. No effect could be determined on chick survival or weight gain. A group of chicks hatched from eggs laid by hens receiving 8 mg dieldrin most commonly chose the deep side of a visual cliff while chicks hatched from control hens chose the shallow side ($P < 0.01$). Eggs laid by first-generation penned birds had dieldrin residues averaging 15.7 ppm for the 4 mg group and 33.6 ppm for the 6 mg group. Up to 37% of the residue was eliminated from a hen's body when eggs were laid. Residues in fat of six penned hens which survived 2 and 4 mg levels ranged from 18.5 to 45.3 ppm. Dieldrin levels in brain tissue of treated hens which died during experimentation varied from 1.15 ppm to 26.7 ppm. Levels in wild birds were lower than levels found in penned birds.

Culley, Dudley D., Jr., and Howard G. Applegate. PESTICIDES AT PRESIDIO. IV. REPTILES, BIRDS, AND MAMMALS. Texas J. Sci. 19(3): 301-310. Nov. 1967. [From J. Mammal. 50(1), 1969.] WR 134: 5

Eberhardt, L. L., W. H. Rickard, C. E. Cushing, D. G. Watson, and W. C. Hanson. A STUDY OF FALLOUT CESIUM-137 IN THE PACIFIC NORTHWEST. J. Wildl. Mgmt. 33(1): 103-112, 9 figs. Jan. 1969. WR 134: 6

[Battelle Mem. Inst., Richland, Wash.] Abstract: The seasonal and spatial distribution of fallout cesium-137 was measured in a number of ungulates and selected forage plants. Study sites ranged from southwestern Wyoming to the Washington coast, including two quite different seasonal precipitation regimes and annual totals from about 7 inches to over 100 inches. Radionuclide accumulation in fallout collectors followed the seasonal patterns of precipitation, as did concentrations on vegetation and in animals. Many factors influence the specific expression of these general patterns, and it is suggested that the overall variability and complexity are such that a useful investigation of any contaminant in a natural system requires a rather sizable minimum expenditure of effort.

Good, E. E., G. W. Ware, and D. F. Miller. EFFECTS OF INSECTICIDES ON REPRODUCTION IN THE LABORATORY MOUSE. I. KEPONE. J. Econ. Entomol. 58: 754-757. 1965. WR 134: 6

[Ohio State Univ., Columbus.]

Good, E. E., and George W. Ware. EFFECTS OF INSECTICIDES ON REPRODUCTION IN THE LABORATORY MOUSE. IV. ENDRIN AND DIELDRIN. Toxicol. & Appl. Pharmacol. 14(1): 201-203. Jan. 1969. WR 134: 6

[Ohio State Univ., Columbus.]

Johnson, Donald R., and Richard M. Hansen. EFFECTS OF RANGE TREATMENT WITH 2,4-D ON RODENT POPULATIONS. J. Wildl. Mgmt. 33(1): 125-132, 2 figs. Jan. 1969. WR 134: 6

[Univ. Idaho, Moscow.] Abstract: The treatment of perennial forb and shrub-grass ranges with 2,4-D in western Colorado usually produced an increase in grass cover and a decrease in the cover of most forbs and shrubs. Recovery time of herbicide-sensitive species varied. Dandelion reestablished dominance within 6 years following treatment of a perennial forb range; big sagebrush showed little sign of recovery 5 years after treatment. The density and litter size of the deer mouse (Peromyscus maniculatus) was little affected by the 2,4-D treatment. The density of northern pocket gophers (Thomomys talpoides) and least chipmunks (Eutamias minimus) was reduced. Montane voles (Microtus montanus) increased in abundance following treatment of a perennial forb range. With the reestablishment of forb dominance, pocket gopher and vole populations returned to pre-treatment levels. Density changes of pocket gophers on treated ranges were due primarily to changes in the availability of food, those of chipmunks to both food and cover, and those of voles to cover changes.

Kury, Channing R. PESTICIDE RESIDUES IN A MARINE POPULATION OF DOUBLE-CRESTED CORMORANTS. J. Wildl. Mgmt. 33(1): 91-95. Jan. 1969. WR 134: 6

[Cornell Univ., Ithaca, N.Y.] Abstract: The double-crested cormorant (Phalacrocorax auritus) was successful in its reproduction in Muscongus Bay, Maine, colonies in 1966 despite the fact that gulls and exposure inflicted a high mortality (71%) on eggs and young. The cormorant obtained little or no pesticide from Maine fish. Pesticides present in the organs of the cormorant were obtained in some other area, possibly Florida where the bird winters. Pesticide residues seem not to have affected the reproductive success of the cormorant.

Ljunggren, Lars. THE INFLUENCE OF MERCURY POISONING ON THE REPRODUCTION AND GENERAL HEALTH OF WOOD PIGEONS. Viltrevy 5(8): 423-434. 1968. In English with Swedish summ. WR 134: 6

[Univ. Lund, Lund, Sweden.] Summary: Wood pigeons with a mercury content in the liver varying between 5 and 48 mg Hg/kg liver have been studied in regard to reproductive ability and general health. The livers of urban wood pigeons have lower mercury content than those of rural ones, obviously dependent upon differences in feeding habits in spring, when most mercury is ingested.

No changes in body weight and liver glycogen could be found in the wood pigeons studied compared with normal mean values. The liver weight was a little reduced. However, as a whole there was no indication of impaired health. The study of pituitary cells and gonads has clearly shown that the reproductive instinct seems to be completely uninfluenced by mercury poisoning. In contrast, the activity of the milk-producing crop suggests that hatching results are poorer, which seems to be the gravest consequence of mercury poisoning in wood pigeons.

McConnell, Chester A. EXPERIMENTAL LEAD POISONING OF BOBWHITE QUAIL AND MOURNING DOVES. Proc. 21st Ann. Conf. SE Assoc. Game & Fish Comms. p. 208-219, 2 figs. 1967 [1968]. WR 134: 7
[Tenn. Game & Fish Comm., Nashville.] Pen study of birds experimentally fed lead shots.

Nelson, Daniel J., and Francis C. Evans, editors. SYMPOSIUM ON RADIOECOLOGY. Proc. 2nd Natl. Symposium, Ann Arbor, Mich., 15-17 May 1967. CONF-670503. xii + 774 p. Mar. 1969. [Available from Clearinghouse for Federal Scientific and Technical Information, U.S. Dept. Commerce, Springfield, Va. Price $3.00.] WR 134: 7
Several papers are of interest to wildlifers: Effects of radiation on survival of wild cotton rats (Sigmodon hispidus) in enclosed areas of natural habitat, Michael R. Pelton and Ernest E. Provost; Mortality rates in irradiated rodent populations, N. R. French, B. G. Maza, and H. W. Kaaz; Strontium-90 levels in mule deer and forage plants, G. C. Farris, F. W. Whicker, and A. H. Dahl; Cesium-137 and a population of Georgia white-tailed deer, G. L. Plummer, T. M. Pullen, Jr., and E. E. Provost; Uptake and elimination of ^{134}Cs by mule deer, T. E. Hakonson and F. W. Whicker; Comparison of fallout ^{137}Cs accumulation and excretion in certain southeastern mammals, James H. Jenkins, J. Robert Monroe, and Frank B. Golley.

Ottoboni, Alice. EFFECT OF DDT ON REPRODUCTION IN THE RAT. Toxicol. & Appl. Pharmacol. 14(1): 74-81. Jan. 1969. WR 134: 7
[Calif. Dept. Public Health, Berkeley.] "Rattus norvegicus."

Scott, Walter E. PROBLEMS AND PROBLEM AREAS OF PESTICIDE USE. Passenger Pigeon 30(4): 168-173. Winter 1968. WR 134: 7
[Wis. Dept. Nat. Resources, Madison.] Address given at a joint meeting of the Nat. Resources Board and the Wis. Board of Agriculture.

Seidensticker, John C. IV. RESPONSE OF JUVENILE RAPTORS TO DDT IN THE DIET. M.S. thesis, Univ. Mont. viii + 74 p., 13 figs. + 2 pls. 1968. WR 134: 7
Dosages of 20 mg DDT per kg body weight every four days did not affect the growth of red-tailed hawks and golden eagles. Total DDT residues in the brains, breast muscles, and livers of hawks fed DDT as nestlings and for an additional 40-day period were four times as high as the total residues found in hawks fed DDT during the nestling period.

Stickel, Lucille F. ORGANOCHLORINE PESTICIDES IN THE ENVIRONMENT. US F&WS, Spec. Sci. Rept.--Wildl. no. 119. iv + 32 p. Oct. 1968. For sale by Supt. Documents at 40¢. WR 134: 7
[Patuxent Wildl. Res. Center, Laurel, Md.] A selective review of the literature concerning the occurrence, distribution, and effects of organochlorines in the environment. Predatory and fish-eating birds ordinarily have higher residues than do herbivores; quantities are similar in birds of similar habits in different countries. Any segment of the ecosystem--marshland, pond, forest, or field--receives various amounts and kinds of pesticides at irregular intervals. The different animals absorb, detoxify, store, and excrete pesticides at different rates. Different degrees of magnification of pesticide residues by living organisms in an environment are the practical result of many interactions that are far more complex than implied by the statement of

magnification up the food chain. These magnifications may be millions of times from water to mud or only a few times from food to first consumer. The impact of these new components of the environment has appeared as death, reproductive impairment, disruption of species balance, and behavioral alteration, but the overall effects on the environment have not been determined. Research should be aimed at interpretation of the significance of pesticide residues to survival and reproduction, to assessment of levels of pesticides in critical environments, and to the kinetics of pesticides in individuals and the ecosystem.--From abstr.

Ware, G. W., and E. E. Good. EFFECTS OF INSECTICIDES ON REPRODUCTION IN THE LABORATORY MOUSE. II. MIREX, TELODRIN, AND DDT. Toxicol. & Appl. Pharmacol. 10: 54-61. 1967. WR 134: 8
[Univ. Ariz., Tucson.]

Ware, G. W., and E. E. Good. EFFECTS OF INSECTICIDES ON REPRODUCTION IN THE LABORATORY MOUSE. III. TRANID AND GC-9160. J. Econ. Entomol. 60: 530-532. 1967. WR 134: 8
[Univ. Ariz., Tucson.]

Young, Howard. A CONSIDERATION OF INSECTICIDE EFFECTS ON HYPOTHETICAL AVIAN POPULATIONS. Ecology 49(5): 991-994, 2 figs. Late Summer 1968. WR 134: 8
[Wis. State Univ., La Crosse.] Abstract: Models are constructed which indicate that species respond in variable fashion to insecticide exposure, dependent upon their breeding patterns and longevity. Direct mortality has the most drastic effect on long-lived slow breeding forms, and the least effect on short-lived rapidly breeding forms. The reverse would be true if sterility resulted from insecticide exposure. Species intermediate in respect to breeding rate and longevity are intermediate in their responses to insecticide-caused mortality or sterility.

WILDLIFE--PARASITES & DISEASES

Becker, C. Dale, and Harry L. Holloway, Jr. A SURVEY OF HAEMATOZOA IN ANTARCTIC VERTEBRATES. Trans. Am. Microscopical Soc. 87(3): 354-360. July 1968. [From J. Mammal. 50(1), 1969.] WR 134: 8

Theodor, O., and M. Costa. A SURVEY OF THE PARASITES OF WILD MAMMALS AND BIRDS IN ISRAEL. I. ECTOPARASITES. Israel Acad. Sci. Human. (Jerusalem). 117 p. 1967. [From J. Mammal. 50(1), 1969.] WR 134: 8

WILDLIFE--POPULATIONS & FLUCTUATIONS

Eberhardt, L. L. POPULATION ESTIMATES FROM RECAPTURE FREQUENCIES. J. Wildl. Mgmt. 33(1): 28-39. Jan. 1969. WR 134: 8
[Battelle Mem. Inst., Richland, Wash.] Abstract: For many species, population estimates based on live-trapping underestimate true numbers. Examination of data on frequencies of recapture suggests that the assumption of equal probability of capture, necessary in Schnabel-type estimation, is often not valid. About 40 sets of data on ten species have been used to study a modified method for estimating population density, essentially based on the assumption that recaptures follow the geometric frequency distribution. The Lincoln Index formula is also given in modified form, and some suggestions are made for revising trapping procedures.

Foster, J. B., and R. McLaughlin. NAIROBI NATIONAL PARK GAME CENSUS, 1967. East African Wildl. J. 6: 152-154. Aug. 1968. WR 134: 8
[Univ. Coll., P.O. Box 30197, Nairobi, Kenya.] Population trends and predation.

Jurgenson, P. B. [CHANGES IN THE TERRESTRIAL GAME FAUNA MAINLY IN THE NORTHERN PART OF THE MOSCOW REGION.] Bull. Moscow Soc. Naturalists, Biol. Ser. 73(2): 23-34. 1968. [From J. Mammal. 50(1), 1969. In Russian with English summ.] WR 134: 9

Paulik, G. J., and D. S. Robson. STATISTICAL CALCULATIONS FOR CHANGE-IN-RATIO ESTIMATORS OF POPULATION PARAMETERS. J. Wildl. Mgmt. 33(1): 1-27, 3 figs. Jan. 1969. WR 134: 9

[Univ. Wash., Seattle.] Abstract: A general unified approach is developed for estimating population abundance, productivity and exploitation rates, and survival characteristics from observed changes in population composition. This approach is applicable when a population can be classified into two categories and a change occurs in the relative abundance of the two types of animals. The two categories can be either natural or artificially constructed. Computation of variances for this family of estimators is described and construction of confidence intervals for population parameters explained. A technique is suggested for calculating the bias in an estimate of population size caused by certain types of deviations from underlying assumptions. Planning of field experiments and surveys to measure demographic characteristics of natural populations is discussed and charts are given for determining sample sizes required to estimate the abundance of a population within a specified percent error. Applications are illustrated by means of detailed numerical examples and a number of well-known population estimation techniques are shown to be special cases of the general formulae presented.

WILDLIFE--TECHNIQUES

Perroux, Joseph W. THE HELICOPTER / A VERSATILE MANAGEMENT AND ENFORCEMENT TOOL. Proc. 21st Ann. Conf. SE Assoc. Game & Fish Comms. p. 560-563. 1967 [1968]. WR 134: 9

WILDLIFE--MANAGEMENT & RESEARCH, GENERAL

Krug, Alan S. MULTIPLE-USE MANAGEMENT OF PUBLIC GAME LANDS. Proc. 19th Ann. Conf. SE Assoc. Game & Fish Comms. p. 147-154. 1965 [1966]. WR 134: 9

[Pa. State Univ., University Park.] Discussion topics include: philosophy of management, administration, the managed hunt, outdoor recreation, land management, research, and law enforcement and public relations.

Krug, Alan S. THE SOCIO-ECONOMIC IMPACT OF FIREARMS IN THE FIELD OF CONSERVATION AND NATURAL RESOURCES MANAGEMENT. Proc. 19th Ann. Conf. SE Assoc. Game & Fish Comms. p. 70-78. 1965 [1966]. WR 134: 9

[Pa. State Univ., University Park.] Much proposed firearms legislation stands to have an adverse effect on the conservation movement, and for this reason warrants careful consideration by professional workers interested in the future of our natural resources.--From abstr.

Petrides, George A. ECOLOGICAL RESEARCH AS A BASIS FOR WILDLIFE MANAGEMENT IN AFRICA. IUCN Publ. New Ser. no. 1. p. 284-293. 1963. WR 134: 9

[Mich. State Univ., East Lansing.] Some of the problems besetting the preservation of African wildlife are discussed.

Taylor, W. Hassel. THE QUANTICO STORY. Proc. 21st Ann. Conf. SE Assoc. Game & Fish Comms. p. 97-103. 1967 [1968]. WR 134: 9

[Va. Comm. Game & Inland Fisheries, Culpeper.] "This paper deals with the results of five years of data collected, costs of game management and a breakdown of costs per hunter day on Quantico Marine Corps Schools."

WILDLIFE--HUNTING AREAS & PROBLEMS

Durell, James S. A BRIEF STUDY OF HUNTERS AND THE OWNERS OF THE LAND ON WHICH THEY HUNT. Proc. 21st Ann. Conf. SE Assoc. Game & Fish Comms. p. 81-87. 1967 [1968]. WR 134: 10

[Ky. Dept. Fish & Wildl. Resources, Frankfort.] Fewer hunting licenses were bought in Kentucky in 1966 than in 1957. Data and statistics on hunting were examined in a search for possible reasons. Answers from 1,068 hunters indicated that 92% of their hunting was on private land. Only 25% had used public land. Deer permits were bought by 10% of the hunters and duck stamps by 3%. In 1963-64, only 28% of the hunting trips crossed a county line, and 43% of the hunters were involved in these longer trips. According to the National Survey of Fishing and Hunting, 25% of the hunters participated less than three days each in 1965.--From summ.

Eliseev, N. V. [HUNTING MANAGEMENT IN THE MOSCOW REGION.] Bull. Moscow Soc. Naturalists, Biol. Ser. 73(2): 18-22. 1968. [From J. Mammal. 50(1), 1969. In Russian with English summ.] WR 134: 10

Emerson, Frederick B., Jr., and James H. Burbank. LANDOWNER FEELINGS ABOUT WILDLIFE IN THE TENNESSEE VALLEY. Proc. 21st Ann. Conf. SE Assoc. Game & Fish Comms. p. 88-94, 6 figs. 1967 [1968]. WR 134: 10

[Tenn. Valley Authority, Norris.] According to their owners, nearly all land holdings in the Tennessee Valley (99%) have some kind of game animal, most commonly the cottontail rabbit. Many owners recognize that game abundance is dependent upon land management activities which improve or degrade game habitat. A large group, however, assign great importance to abundance of predators and overharvesting to explain decreases. A surprisingly high (43) percentage of owners do not know where to go for free professional advice or help regarding game. Forty-one per cent of the owners hunt. Sixty-nine per cent allow hunting on their lands without qualification. Fifteen per cent more would allow hunting if hunters asked permission. This means that over 26 million acres--85% of the total private land area studied--are actually or potentially open to hunting.--From summ.

Haygood, John L. TEN YEARS' CONTROLLED HUNTING ON LOUISIANA'S WILDLIFE MANAGEMENT AREAS. Proc. 19th Ann. Conf. SE Assoc. Game & Fish Comms. p. 160-170, 3 figs. 1965 [1966]. WR 134: 10

[La. Wildl. & Fisheries Comm., New Orleans.]

McConnell, Chester A. A SURVEY OF PRIVATE AND COMMERCIAL SHOOTING PRESERVES IN TENNESSEE. Proc. 20th Ann. Conf. SE Assoc. Game & Fish Comms. p. 161-180, 3 figs. 1966 [1967]. WR 134: 10

[Tenn. Game & Fish Comm., Nashville.] History, methods of operation, status problems and solutions to problems of upland game bird and big game shooting preserves in Tenn.

McDaniel, Jimmie. EVALUATION OF UTILIZATION, HARVEST AND HUNTING PRESSURE ON PRIVATELY OWNED HUNTING AREAS. Proc. 19th Ann. Conf. SE Assoc. Game & Fish Comms. p. 60-69, 9 figs. 1965 [1966]. WR 134: 10

[Fla. Game & Fresh Water Fish Comm., Tallahassee.] "For waterfowl."

WILDLIFE--INTRODUCTIONS

Petrides, George A. PROBLEMS IN SPECIES' INTRODUCTIONS. IUCN Bull. 2(7): 70-71. Oct.-Dec. 1968. WR 134: 10

[Mich. State Univ., East Lansing.] "A review of considerations involved in the introduction of non-indigenous plants and animals and the re-introduction of native species to areas where they no longer occur."

WILDLIFE--PREDATION, CROP DAMAGE, CONTROL

Brosset, A., and C. Chappuis. EFFETS DE LA PREDATION SUR L'EVOLUTION DES CRIS DES JEUNES OISEAUX, I. [EFFECTS OF PREDATION UPON THE EVOLUTION OF THE CALLS OF YOUNG BIRDS, I.] Terre & Vie 114(4): 373-389, 3 figs. Oct.-Dec. 1968. In French with English summ. WR 134: 11

"Turdus merula, Alauda arvensis, Emberiza calandra, and Passer domesticus."

Farris, James S. SIGNIFICANCE TESTING AND CONFIDENCE INTERVALS FOR FIXED MORTALITY RATES. Ecology 49(5): 994-996. Late Summer 1968. WR 134: 11

[Univ. Mich. Museum Zool., Ann Arbor.] Abstract: If the mortality rate of individuals in a population is independent of the ages of individuals, 2 populations can be compared with respect to mortality rate by comparing the mean ages at death of samples from the populations. The significance test is of the form $F = \bar{x}_1/\bar{x}_2$, where the larger sample mean age at death is $\bar{x}_1$. The F-ratio is two-tailed, and its degrees of freedom are $2n_1$ and $2n_2$, where n_1 is the sample size associated with $\bar{x}_1$. The test is conservative if the mortality rate increases with age, and biased toward rejection if the mortality rate decreases with age. The quantity $2n\bar{x}/a$, where a is the parameter mean age at death, is chi-square distributed with $2n$ degrees of freedom if the mortality rate is independent of age. This fact gives a method for constructing confidence intervals for a.--Courtesy/ Paul A. Stewart.

Linehan, John T. CORN TO RESIST BIRD ATTACK. Vegetable Conf. Abstr. (University Park, Pa.). p. 13-16. Feb. 1969. WR 134: 11

[Univ. Del., Newark.] Chemical repellents and resistant varieties of corn were tested on blackbirds.

Matschke, George H. PREDATION BY EUROPEAN WILD HOGS ON DUMMY NESTS OF GROUND-DWELLING BIRDS. Proc. 19th Ann. Conf. SE Assoc. Game & Fish Comms. p. 154-156, 1 fig. 1965 [1966]. WR 134: 11

[Univ. Tenn. Agr. Res. Lab., Oak Ridge.]

WILDLIFE--REPORTS OF ORGANIZATIONS & REPORTS OF HARVESTS

Camp, Norma Cournow, editor. CONSERVATION CENTENNIAL SYMPOSIUM: THE QUEST FOR QUALITY IN WISCONSIN. Univ. Wis. Conserv. Education Programs. xii + 88 p. 1967. WR 134: 11

Includes: The web of public policy, Stephen C. Smith; Conservation's first century in Wisconsin: landmark dates and people, Walter E. Scott; A quest for quality--1967, Charles H. W. Foster; The conservation talley sheet: a regional forester's report, George S. James; The conservation balance sheet today; progress and problems, Lester P. Voigt; The conservation balance sheet today; progress and problems, Freeman Holmer; Conservation achievements, Gaylord Nelson; and Prospects for future progress, Charles F. Luce.

Courtright, Alan M. GAME HARVESTS IN ALASKA. Alaska Dept. Fish & Game, Federal Aid Wildl. Restoration Rept. i + 70 p., illus. June 1968. WR 134: 11

Summaries of harvests of game in Alaska.

Oswald, Philip. THE NATURE CONSERVANCY / PROGRESS 1964-1968. Nat. Environment Res. Council SBN 11 980258 9. 78 p., 22 [figs.]. 1968. Seven shillings six pence. WR 134: 11

The main emphasis of the report is on social relevance of the Conservancy's work, rather than the research being done. One section, entitled "Research: A Basis for Conservation," does include information on hedgerows, pesticides, lowlands, woodlands, coastal and wetland research, upland grasslands, and the wildlife of the mountains and moorlands.

WETLANDS & WILDLIFE

Hopper, Richard M. WETLANDS OF COLORADO. Colo. Dept. Game, Fish & Parks Tech. Publ. no. 22. 88 p., 20 figs. Mar. 1968. WR 134: 12

Subject headings include: survey methods; evaluation of the four major waterfowl regions of Colo.; amount of wetlands, wetland types, recreational use, and type of ownership of each of the regions; amount of public hunting opportunity; and potential of the wetlands.

Isard, Laurence. MAN, WETLANDS, AND WATERFOWL. Explorer 11(1): 6-11, 6 figs. Spring 1969. WR 134: 12

[Nat. Sci. Museum, Cleveland, Ohio.] Decline in waterfowl population is attributed largely to the loss of breeding and wintering habitat as a result of droughts, extensive drainage, and modern farming practices.

FORESTLAND--FORESTRY & ECOLOGY

Burbank, James H., and Robert D. Smith. WILDLIFE HABITAT, FOREST RESOURCE, AND HYDROLOGIC CONDITION INVENTORY AT LAND BETWEEN THE LAKES. Proc. 20th Ann. Conf. SE Assoc. Game & Fish Comms. p. 6-14. 1966 [1967]. WR 134: 12

Browse production was estimated to be 14 pounds (air dried, winter) per acre, half in desirable deer foods. Acorn production capabilities amounted to 7.8 million pounds, or 54 pounds per forest acre. Winter browsing incidence was 0.4% for deer and 1.4% for rabbit. Habitat rated good ranged from 48% total land area for deer to 1% for ruffed grouse. Lack of required vegetation types loomed as the most significant factor limiting game, ranging from 18% total land area for raccoon to 83% for quail.--From summ.

Segelquist, C. A., and L. K. Halls. HISTORY AND STATUS OF FOREST GAME HABITAT RESEARCH IN THE SOUTH. Proc. 20th Ann. Conf. SE Assoc. Game & Fish Comms. p. 1-5. 1966 [1967]. WR 134: 12

[Southern Forest Expt. Sta., Nacogdoches, Texas.] White-tailed deer, gray and fox squirrels, wild turkey, and bobwhite quail.

FORESTLAND--MANAGEMENT FOR & DAMAGE BY WILDLIFE

Baardset, K. [THE DEER AND FOREST DAMAGES.] Norsk Skogbruk 14(4): 111-112. Feb. 1968. [From Bibliog. Agr. 33(2), 1969. In Norwegian.] WR 134: 12

Byrne, James G., and William D. Zeedyk. THE APPLICATION OF SOIL SURVEY INFORMATION TO FOREST-GAME HABITAT MANAGEMENT ON THE CUMBERLAND NATIONAL FOREST. Proc. 19th Ann. Conf. SE Assoc. Game & Fish Comms. p. 174-181, 2 figs. 1965 [1966]. WR 134: 12

[Cumberland Natl. Forest, Ky.] Soils information applied to forest-wildlife management helps determine the game species to emphasize, identifies specific sites for development, protection, and enhancement of key habitat elements and can be used as a basis for preparing area-wide habitat maps reflecting projected conditions.--From summ.

de Crombrugghe, Simon A. PRATIQUE DE L'ÉQUILIBRE FORÊT-GIBIER EN BELGIQUE. [EXPERIENCE WITH FOREST-GAME EQUILIBRIUM IN BELGIUM.] Bull. Groupe Travail Étude Équilibre Forêt-Gibier 3(1). 31 p., 3 figs. Apr. 1968. In French. WR 134: 12

Information on management of forests and game: habitat improvement, cultivation of forage, and protection against wild ungulate damage.

Devet, David D., and Melvin L. Hopkins. RESPONSE OF WILDLIFE HABITAT TO THE PRESCRIBED BURNING PROGRAM ON THE NATIONAL FORESTS IN SOUTH CAROLINA. Proc. 21st Ann. Conf. SE Assoc. Game & Fish Comms. p. 129-133. 1967 [1968]. WR 134: 13

Prescribed burning on the Francis Marion National Forest in loblolly and longleaf pine stands results in a favorable response of desirable legumes and other forbs preferred by deer, turkey and quail the first few years. As the rough builds up, the woody plants and grasses dominate the forest floor. For maximum wildlife habitat improvement, burning frequency should be three years or less. Careful techniques of burning are necessary to prevent acceleration of needle cast and premature accumulation of the smothering duff and litter. Prescribed fire can be used successfully in the piedmont areas of the Sumter National Forest. The results are similar to those experienced in the coastal plain. However, the interval between fires can be extended one to two years longer in most cases and still retain favored wildlife food plants even for quail.--From summ.

Dubiny, V. [CHEMICAL PROTECTION OF FORESTS AGAINST INJURIES CAUSED BY WILDLIFE.] Les (Bratislava) 24(7): 313-315. 1968. [From Bibliog. Agr. 33(1), 1969. In Czech.] WR 134: 13

Herpka, I. [INJURIES TO SEEDLINGS IN POPLAR PLANTATIONS BY FAWNS.] Sumar 15(10/12): 189-195. 1967. [From Bibliog. Agr. 33(3), 1969. In Serbo-Croatian.] WR 134: 13

Hruzík, Ladislav, and others. CZECHOSLOVAK FORESTRY. The State Agricultural Publishing House (Prague) Publ. no. 1882. 239 p., 174 figs. 1966. English translation from the Czech. WR 134: 13

One large section (p. 167-227) by V. Zásměta deals with game management in Czechoslovakia. There is also a relatively brief section on nature conservation.

Jović, Dušan Đ. PROBLEMI USKLAĐIVANJA ŠUMSKOG I LOVNOG GAZDOVANJA. [PROBLEMS OF HARMONIZING FOREST AND GAME MANAGEMENT.] Jelen 7: 5-38. 1968. In Serbo-Croatian with Russian and English summ. WR 134: 13

"General fundamentals and methodology of management of even-aged forests under conditions of combined game and forest management."

Larson, Joseph S. PROBLEMS IN MEASURING FOOD PRODUCTION ON FOREST WILDLIFE CLEARINGS. Proc. 20th Ann. Conf. SE Assoc. Game & Fish Comms. p. 33-37, 1 fig. 1966 [1967]. WR 134: 13

[Nat. Resources Inst., La Vale, Md.] Although it is evident that a sound statistical sampling scheme is necessary for reliable results, there are other considerations to be weighed before wildlife agencies put much effort into measuring production and utilization of forage in clearings. Game managers have generally concluded that agricultural forage clearings supplement the food base of forest game. However, to reasonably evaluate the supplemental role of clearings in terms of the food base, it is necessary to obtain information on "natural" foods available on management areas where clearings are to be installed. While it is fairly easy to accurately estimate the quantity and quality of agricultural foods grown on forage clearings, this is of no value unless accompanied by baseline information on what is already available to game before clearings are created.--From discussion.

Miller, Howard A. WHY WILDLIFE OPENINGS IN FOREST HABITAT. Proc. 19th Ann. Conf. SE Assoc. Game & Fish Comms. p. 171-173. 1965 [1966]. WR 134: 13

"In summary, then, grass-forb-brush openings furnish the basic requirements for nesting and survival of native game species. They should be well distributed throughout the forest and large enough to promote vigorous growth of desirable food-producing species. Southern forest soils are rich in the important sub-climax food plants and given sunlight these plants will produce satisfactory food and cover. The openings may be maintained in the proper plant succession and condition by either burning, mowing, discing or spraying--whichever is most expedient."

Palmer, Zeb, and D. D. Devet. PRESCRIBED BURNING TECHNIQUES ON THE NATIONAL FORESTS IN SOUTH CAROLINA. Proc. 19th Ann. Conf. SE Assoc. Game & Fish Comms. p. 23-25, 1 fig. 1965 [1966]. WR 134: 14

Five basic firing techniques are employed for prescribed burning on the National Forests in South Carolina. Each technique or a combination of techniques is best under certain conditions of fuel, weather, topography, and desired results.--From summ.

Stransky, J. J., and L. K. Halls. WOODLAND MANAGEMENT TRENDS THAT AFFECT GAME IN COASTAL PLAIN FOREST TYPES. Proc. 21st Ann. Conf. SE Assoc. Game & Fish Comms. p. 104-108, 1 fig. 1967 [1968]. WR 134: 14

[Southern Forest Expt. Sta., Nacogdoches, Texas.] The distribution of forest game species by forest type is outlined and the effect of current forestry practices upon populations of these species is projected.

West, Neil E. RODENT-INFLUENCED ESTABLISHMENT OF PONDEROSA PINE AND BITTERBRUSH SEEDLINGS IN CENTRAL OREGON. Ecology 49(5): 1009-1011, 1 fig. Late Summer 1968. WR 134: 14

[Oreg. State Univ., Corvallis.] Abstract: Unrecovered caches of Pinus ponderosa and Purshia tridentata seed made by small rodents frequently result in establishment of seedling clusters. Studies in montane forests of central Oregon indicate that about 90% of the Purshia seedlings that germinate develop in clusters. At least 15% of the pine seedlings result from rodent caches.--Courtesy/ Paul A. Stewart.

STRIPPED LAND & MISCELLANEOUS HABITATS

Russell, Dan M. A SURVEY OF STREAMBANK WILDLIFE HABITAT. Proc. 20th Ann. Conf. SE Assoc. Game & Fish Comms. p. 37-42. 1966 [1967]. WR 134: 14

[Ky. Dept. Fish & Wildl. Resources, Frankfort.] It was observed during the course of this study that streambank habitat is being depleted at an alarmingly rapid rate. Nearly one-half of the streamside cover was found to be altered. The damage is done by both public and private operations and activities. Water quality is being reduced. Fishery resources are being depleted. Wildlife habitat is being destroyed. Wildlife species found along streams are interdependent and very little wildlife can exist without the natural streambank habitat. Losses of suitable wildlife cover are so extensive due to industry, building, changing farm practices and the rest, that streambank habitat may well be the most practicable of all types of natural wildlife environment that can be rescued and preserved. There is no other habitat type that supports as many different species of wildlife, yet is so readily accessible to the greatest number of common every-day people--anywhere in the country.--From discussion.

CONTROL OF VEGETATION WITH HERBICIDES, ETC.

Balduzzi, Richard A., and others. BRUSH CONTROL RESEARCH PROGRESS REPORT, 1968. Texas Technol. Coll. Spec. Rept. no. 15. 81 p., 14 figs. [1968.] WR 134: 14

[Texas Technol. Coll., Lubbock.] Includes the following reports: The brush problem in Texas--a challenge to research, Gerald W. Thomas, Thadis W. Box, and Joseph L. Schuster; Night application of phenoxy herbicides increase plains pricklypear control, Joseph L. Schuster; Fire research on mesquite, Henry A. Wright; Fire as a brush control tool in South Texas brushlands, Thadis W. Box; Investigations of insects associated with mesquite, Ellis W. Huddleston and Charles R. Ward; Juniper age and distribution on an isolated butte in Garza County, Texas, Joseph L. Schuster and Dalton Ellis; The response of redberry juniper to cutting in relation to season and phenological development, Joseph L. Schuster and Richard Balduzzi; The effects of Tordon 212 and Tordon 225 on redberry juniper, Richard Balduzzi and Joseph L. Schuster; Maintenance control

of mesquite by shredding, Joseph L. Schuster; Maintenance control of mesquite and juniper after shredding, Joseph L. Schuster and Henry A. Wright; Vegetation response following mechanical brush control practices in South Texas, Thadis W. Box; Mechanical and chemical control of certain understory brush species in Jones and Nolan Counties, Texas, Francis M. Churchill and Harvey Bronniman; Development of equipment for chemical and mechanical mesquite control, Joseph C. Newell, Willie L. Ulich, and Joseph L. Schuster; The effect of dimethyl sulfoxide on herbicide penetration and translocation in mesquite, Melvin George, James Talbot, and Bill E. Dahl; The use of growth retardant and dessicant chemicals as preconditioners in the chemical control of mesquite, Bill E. Dahl; Dry form chemical treatment of western honey mesquite on deep hardland sites of the Texas high plains, Joseph L. Schuster; Soil and soil moisture relationships as they affect control of mesquite and other brush, Bill E. Dahl and Robert A. Langford; A study of the ecology and control of the Texas persimmon, Diospyros texana, Leroy J. Young, Bobby Wilson, and Robert Eisenhauer; Feeding mesquite wood as a maintenance ration for beef cattle, Ralph M. Durham and Cotton Ellis; The effect of brush control on scaled and bobwhite quail, Donald A. Klebenow; and An economic study of ranching and brush control problems on the rolling plains of Texas, Rex P. Kennedy and W. F. Williams.

MAMMALS--GENERAL

Blus, Lawrence J., and David A. Johnson. ADOPTION OF A NESTLING HOUSE MOUSE BY A FEMALE SHORT-TAILED SHREW. Am. Midland Nat. 81(2): 583-584. Apr. 1969. WR 134: 15

[Patuxent Wildl. Res. Center, Laurel, Md.] "Mus musculus and Blarina brevicauda."

Haglund, Bertil. DE STORA ROVDJURENS VINTERVANOR. II. [WINTER HABITS OF THE BEAR (URSUS ARCTOS L.) AND THE WOLF (CANIS LUPUS L.) AS REVEALED BY TRACKING IN THE SNOW.] Viltrevy 5(6): 217-361, 24 figs. 1968. In Swedish with English summ. WR 134: 15

[Skolvägen 16A, S-184 00 Åkersberga, Sweden.] Report on the habits of the bear and wolf as predators of moose, reindeer, and sheep. Bears were baited to trees with turpentine or pine oil, both to control the wanderings and group densities of the bears, and to observe tree damage. See WR 124: 17 for Part I.

Lauer, B. H., and B. E. Baker. MINERAL CONSTITUENTS OF THE MILKS OF SOME ARCTIC SPECIES. Canadian J. Zool. 47(2): 185-187. Mar. 1969. WR 134: 15

[McGill Univ., Macdonald College P.O., Quebec, Canada.] Abstract: Milk was collected from the following Arctic or sub-Arctic species: Arctic wolf, husky, fin whale, beluga whale, and mountain goat. The ash obtained from each milk was analyzed for its sodium, potassium, calcium, magnesium, iron, and phosphorus contents.

Long, Charles A. AN ANALYSIS OF PATTERNS OF VARIATION IN SOME REPRESENTATIVE MAMMALIA. PART I. A REVIEW OF ESTIMATES OF VARIABILITY IN SELECTED MEASUREMENTS. Trans. Kans. Acad. Sci. 71(2): 201-227. Summer 1968. [From J. Mammal. 50(1), 1969.] WR 134: 15

Pucek, Michalina. POLISH THERIOLOGICAL BIBLIOGRAPHY. Acta Theriol. 13(34): 559-576. 28 Dec. 1968. WR 134: 15

[Mammals Res. Inst., Polish Acad. Sci., Białowieża, Poland.] Abstract: The bibliography of recent Polish mammalogical works contains titles of papers published in the second half of 1967 and first half of the year 1968.

MAMMALS--TECHNIQUES

Austin, David H., and Jerry H. Peoples. CAPTURING HOGS WITH ALPHA-CHLORALOSE. Proc. 21st Ann. Conf. SE Assoc. Game & Fish Comms. p. 201-205. 1967 [1968]. WR 134: 16

[Fla. Game & Fresh Water Fish Comm., Sebring.] Abstract: Since January 1965 approximately one hundred feral swine (Sus scrofa) have been captured with alpha-chloralose on whole corn at bait sites intended for wild turkeys (Meleagris gallopavo). A series of experiments on penned feral and domestic hogs was conducted to determine minimum and maximum dosages of alpha-chloralose and preferred baits for the safe capture of free-ranging hogs. A method to capture feral hogs with alpha-chloralose applied to baits is described.

Brown, Ernest B. III, Wallace R. Saatela, and William D. Schmid. A COMPACT, LIGHTWEIGHT LIVE TRAP FOR SMALL MAMMALS. J. Mammal. 50(1): 154-155, 1 fig. Feb. 1969. WR 134: 16

[Univ. Minn., Minneapolis.]

Burlacu, Gheorghe, and Gheorghe Făget. AN EQUIPMENT FOR EFFORT METABOLISM RECORDING IN LABORATORY ANIMALS. Acta Theriol. 13(27): 447-452, 2 figs. 30 Oct. 1968. In English with Polish summ. WR 134: 16

[Acad. RSR, Inst. Biol., Spl. Independentei 296, Bucharest, Romania.]

Gerrard, Martha. TAGGING OF SMALL ANIMALS WITH RADIOISOTOPES FOR TRACKING PURPOSES. Isotopes & Radiation Technol. 6(2): 200-204. Winter 1968-1969. WR 134: 16

Abstract: A review of the literature (32 references) shows that minute radioisotope sources attached externally to or inserted subcutaneously in small animals may be used for tracking purposes.

Holišová, Věra. NOVÝ ZPŮSOB ZNAČENÍ DROBNÝCH LESNÍCH HLODAVCŮ PŘI URČOVÁNÍ JEJICH POČETNOSTI. [A NEW METHOD OF MARKING OF SMALL MAMMALS FOR THE DETERMINATION OF THEIR POPULATION DENSITY.] Vertebratol. Zprávy 1968(1): 22-23. 1968. In Czech with English summ. WR 134: 16

Summary: A new method was developed to mark small forest rodents by bait composed of fat, flour and coloured cut wool fibres. This method permits groups of individuals to be marked for a short period of time during the assessment of population size by clap-up traps.

Johnson, William Warren. DISPENSING BAIT WITH A CAULKING GUN. J. Mammal. 50(1): 149. Feb. 1969. WR 134: 16

[Univ. Ill., Urbana.] In small mammal trapping.

Nellis, D. W., J. H. Jenkins, and A. D. Marshall. RADIOACTIVE ZINC AS A FECES TAG IN RABBITS, FOXES, AND BOBCATS. Proc. 21st Ann. Conf. SE Assoc. Game & Fish Comms. p. 205-207. 1967 [1968]. WR 134: 16

[N.Y. Zool. Park, New York.] Abstract: The radioactive isotope, ^{65}Zn was fed and injected into rabbits, opossums, foxes, and bobcats. When injected, ^{65}Zn was detectable in feces from these animals for over a year after injection. The radioactive zinc present in the fecal pellets is also very stable to weathering. The injection of ^{65}Zn is an excellent technique for long-term marking of feces in censusing, home range, and migration studies. Public health dangers, although largely imaginary, seriously limit the use of this technique and are discussed.

Van Vleck, David B. STANDARDIZATION OF MICROTUS HOME RANGE CALCULATION. J. Mammal. 50(1): 69-80, 4 figs. Feb. 1969. WR 134: 16

[Middlebury Coll., Middlebury, Vt.] Abstract: A population of Microtus pennsylvanicus of high density, one of medium density, and one of low density were live-trapped in the summers of 1960 to 1962. Home ranges were calculated by several methods (minimum boundary, exclusive boundary, and inclusive boundary), and differences between the results of three methods are presented. Individual ranges were determined by the number of different stations at which the vole was trapped. This method eliminates the factor of trap-habituation that appears when ranges are determined by the number of captures, and is conducive to better intra- and interspecific comparisons.

MAMMALS--TECHNIQUES--Continued

Williams, Owen B. AN IMPROVED TECHNIQUE FOR IDENTIFICATION OF PLANT FRAGMENTS IN HERBIVORE FECES. J. Range Mgmt. 22(1): 51-52. Jan. 1969. WR 134: 17

[Div. Animal Physiol., CSIRO, Prospect, Australia.] The material is boiled, bleached, and stained with safranin, then mounted on slides treated with Mayer's albumen.

MAMMALS--FAUNAS & MANUALS

Anderson, Elaine. THE CARNIVORA. FAUNA OF THE LITTLE BOX ELDER CAVE, CONVERSE COUNTY, WYOMING. Univ. Colo. Studies, Ser. Earth Sci. 6: 1-59. May 1968. [From J. Mammal. 50(1), 1969.] WR 134: 17

Beames, Ian R. MAMMALS IN THE LONDON AREA, 1966. London Naturalist 47: 25-37. July 1968. [From J. Mammal. 50(1), 1969.] WR 134: 17

Fall, Michael W., William B. Jackson, and Michael L. Carpenter. THE OCCURRENCE AND ORIGIN OF SMALL MAMMALS ON THE ISLANDS AND PENINSULAS OF WESTERN LAKE ERIE. Ohio J. Sci. 68(2): 109-116. Mar. 1968. [From J. Mammal. 50(1), 1969.] WR 134: 17

Goodpaster, Woodrow W., and Donald F. Hoffmeister. NOTES ON OHIOAN MAMMALS. Ohio J. Sci. 68(2): 116-117. Mar. 1968. [From J. Mammal. 50(1), 1969.] WR 134: 17

Goodwin, Robert. THE MAMMALS OF JAMAICA. Caribbean Biol. Center Newsletter 2(5): 17-21. Nov. 1967. [From J. Mammal. 50(1), 1969.] WR 134: 17

Hoffmann, R. S., and D. L. Pattie. A GUIDE TO MONTANA MAMMALS: IDENTIFICATION, HABITAT, DISTRIBUTION AND ABUNDANCE. Univ. Mont. x + 133 p. 1968. [From J. Mammal. 50(1), 1969.] WR 134: 17

Meylan, André. LIST DES MAMMIFÈRES DE SUISSE. [LIST OF THE MAMMALS OF SWITZERLAND.] Bull. Soc. Vaud. Sc. Nat. 69(321): 233-245. 1966. In French. WR 134: 17

[SFEA, Domaine de Changins, 1260 Nyon, Switzerland.] Systematic list of 87 spp. Rare, extirpated, and reintroduced species are noted. Common names are given in French, German, and Italian.

Peacock, Daniel B. SOME NOTES ON VIRGINIA AND NORTH CAROLINA MAMMALS. J. Washington Acad. Sci. 57: 242-244. 1967. [From J. Mammal. 50(1), 1969.] WR 134: 17

Rahm, U., and A. Christiaensen. LES MAMMIFÈRES DE LA RÉGION OCCIDENTALE DU LAC KIVU. [THE MAMMALS OF THE REGION WEST OF LAKE KIVU.] Mus. Roy. l'Afrique Centrale 118: 1-83. 1963. [From J. Mammal. 50(1), 1969. In French.] WR 134: 17

Rahm, U., and A. Christiaensen. LES MAMMIFÈRES DE L'ÎLE IDJWI. [THE MAMMALS OF IDJWI ISLAND.] Ann. Mus. Roy. l'Afrique Centrale 8(149): 1-35. 1966. [From J. Mammal. 50(1), 1969. In French.] WR 134: 17

Schlitter, Duane A., and John B. Bowles. NOTEWORTHY DISTRIBUTIONAL RECORDS OF SOME MAMMALS IN IOWA. Trans. Kans. Acad. Sci. 70(4): 525-529. 12 Mar. 1968. [From J. Mammal. 50(1), 1969.] WR 134: 17

Stubbe, Michael, and Namshil Chotolchu. ZUR SÄUGETIERFAUNA DER MONGOLEI. [ON THE MAMMALIAN FAUNA OF MONGOLIA.] Mitteil. Zool. Mus. Berlin 44(1): 3-121. May 1968. [From J. Mammal. 50(1), 1969. In German with Russian summ.] WR 134: 17

Tanaka, Kojo. WILD MAMMALS IN JAPAN. Japan Illus. 6(3): 52-61. 1968. [From J. Mammal. 50(1), 1969.] WR 134: 18

MAMMALS--POPULATIONS, HOME RANGES, COMMUNITIES

Gentry, John B., Frank B. Golley, and Michael H. Smith. AN EVALUATION OF THE PROPOSED INTERNATIONAL BIOLOGICAL PROGRAM CENSUS METHOD FOR ESTIMATING SMALL MAMMAL POPULATIONS. Acta Theriol. 13(18): 313-327, 3 figs. 30 Oct. 1968. In English with Polish summ. WR 134: 18

[Savannah River Ecol. Lab. SROO, Box A, Aiken, S.C.] Polish workers have proposed a method of estimating small rodent populations based on removal trapping. Using a linear regression method, they obtained reliable population estimates with five days of prebaiting followed by five days of removal trapping. The aim of our study was to compare the results obtained, using the same method at the Atomic Energy Commission's Savannah River Plant in the Southeastern United States, with the results of the Polish investigators. The results from this study indicated that at least nine days of trapping were necessary to obtain reliable estimates for the population as a whole. Even so, reliable estimates could not be calculated for two of the four most common species after 27 days of removal trapping.--From abstr.

Hansson, Lennart. POPULATION DENSITIES OF SMALL MAMMALS IN OPEN FIELD HABITATS IN SOUTH SWEDEN IN 1964-1967. Oikos 19(1): 53-60. 1968. [From J. Mammal. 50(1), 1969.] WR 134: 18

Pruitt, William O., Jr. SYNCHRONOUS BIOMASS FLUCTUATIONS OF SOME NORTHERN MAMMALS. Mammalia 32(2): 172-191. June 1968. [From J. Mammal. 50(1), 1969. In English with French summ.] WR 134: 18

Rahm, U. LES MAMMIFÈRES DE LA FORÊT ÉQUATORIALE DE L'EST DU CONGO. [THE MAMMALS OF THE EQUATORIAL FOREST OF THE EASTERN CONGO.] Ann. Mus. Roy. l'Afrique Centrale 8(149): 39-121. 1966. [From J. Mammal. 50(1), 1969. In French.] WR 134: 18

Tanaka, Ryo, and Masaomi Kanamori. NEW REGRESSION FORMULA TO ESTIMATE THE WHOLE POPULATION FOR RECAPTURE-ADDICTED SMALL MAMMALS. Res. Population Ecol. 9(2): 83-94, 5 figs. Dec. 1967. In English with Japanese summ. WR 134: 18

[Kochi Women's Univ., Kochi, Japan.] The equation is founded on the assumption that the trappable population on the initial day is increased in an exponential curve until it reaches to the whole during one trapping period.--From summ.

MAMMALS--PARASITES & DISEASES

Dodds, Donald G., Arthur M. Martell, and Richard E. Yescott. ECOLOGY OF THE AMERICAN DOG TICK, DERMACENTOR VARIABILIS (SAY), IN NOVA SCOTIA. Canadian J. Zool. 47(2): 171-181, 4 figs. Mar. 1969. WR 134: 18

[Acadia Univ., Wolfville, Nova Scotia.] Seven small mammal species act as hosts. The most important hosts of immature stages are meadow vole (Microtus pennsylvanicus), deer mouse (Peromyscus maniculatus), southern bog lemming (Synaptomys cooperi), and meadow jumping mouse (Zapus hudsonius). Important hosts for adult stages are porcupine (Erethizon dorsatum), raccoon (Procyon lotor), and black bear (Ursus americanus).--From abstr.

Dunn, F. L., B. L. Lim, and L. F. Yap. ENDOPARASITE PATTERNS IN MAMMALS OF THE MALAYAN RAIN FOREST. Ecology 49(6): 1179-1184, 2 figs. Autumn 1968. WR 134: 18

[Univ. Calif., San Francisco.] Helminth and blood parasites are correlated with host food preferences and habitats.--Courtesy/ Paul A. Stewart.

Elbl, Alena, [U.] H. Rahm, and Gustave Mathys. LES MAMMIFÈRES ET LEURS TIQUES DANS LA FORÊT DU RUGGEGE (RÉPUBLIQUE RWANDAISE). [THE MAMMALS AND THEIR TICKS IN THE RUGGEGE FOREST (RWANDA REPUBLIC).] Acta Tropica (Basel) 23(3): 223-263. 1966. [From J. Mammal. 50(1), 1969. In French with English summ.] WR 134: 19

Emery, J. B. INFECTIOUS DISEASE REVIEW: NEWER CONCEPTS OF RABIES. Practicing Vet. 41(1): 13-16. 1969. WR 134: 19
[Dow Chem. Co., Zionsville, Ind.] Pathogenesis, epidemiology in wildlife, abortive infections, sylvatic rabies, and present status in wildlife are discussed.

Miller, Grover C., and Reinard Harkema. HELMINTHS OF SOME WILD MAMMALS IN THE SOUTHEASTERN UNITED STATES. Proc. Helminthol. Soc. Washington 35(2): 118-125. July 1968. [From J. Mammal. 40(1), 1969.] WR 134: 19

Threlfall, William. FURTHER RECORDS OF HELMINTHS FROM NEWFOUNDLAND MAMMALS. Canadian J. Zool. 47(2): 197-201. Mar. 1969. WR 134: 19
[Memorial Univ., St. John's, Newfoundland, Canada.] One hundred and thirty-eight mammals of 16 spp. were examined for helminth parasites. A total of 45 animals (32%) of seven species were found to be infected with 18 spp. of helminths (8 spp. of cestodes, 10 of nematodes).--From abstr.

SHREWS, MOLES, BATS

Aellen, V., and A. Brosset. CHIROPTÈRES DU SUD DU CONGO (BRAZZAVILLE). [BATS OF SOUTHERN CONGO (BRAZZAVILLE).] Rev. Suisse Zool. 75(14): 435-458. Aug. 1968. [From J. Mammal. 50(1), 1969. In French.] WR 134: 19

Al-Robaae, Khalaf. NOTES ON THE BIOLOGY OF THE TOMB BAT, TAPHOZOUS NUDIVENTRIS MAGNUS V. WETTSTEIN 1913, IN IRAQ. Säugetierk. Mitteil. 16(1): 21-26. Mar. 1968. [From J. Mammal. 50(1), 1969. In English with German summ.] WR 134: 19

Beames, Ian R. BATS IN THE LONDON AREA. London Naturalist 47: 38-49. July 1968. [From J. Mammal. 50(1), 1969.] WR 134: 19

Borowski, Stanisław. ON THE MOULT IN THE COMMON SHREW. Acta Theriol. 13 (30): 483-498, 3 figs. + 1 pl. 28 Dec. 1968. In English with Polish summ. WR 134: 19
[Mammals Res. Inst., Polish Acad. Sci., Białowieża, Poland.] "Sorex araneus."

Davis, Russell. WING LOADING IN PALLID BATS. J. Mammal. 50(1): 140-144, 1 fig. Feb. 1969. WR 134: 19
[Univ. Ariz., Tucson.] "Antrozous pallidus."

Di Salvo, Arthur F., Joseph Palmer, and Libero Ajello. MULTIPLE PREGNANCY IN TADARIDA BRASILIENSIS CYNOCEPHALA. J. Mammal. 50(1): 152. Feb. 1969. WR 134: 19
[Natl. Communicable Disease Center, Atlanta, Ga.]

Dolgov, V. A. [THE CASES OF ALBINISM IN SOREX ARANEUS.] Acta Theriol. 13 (33): 557-558, 1 fig. 28 Dec. 1968. In Russian. WR 134: 19
[Zool. Museum MGU, Moscow K-9, Gercena 6, USSR.] Two cases of complete and partial albinism in Sorex araneus are described.--From abstr.

Greenhall, Arthur M., and John L. Paradiso. BATS AND BAT BANDING. US F&WS Resource Publ. 72. iv + 48 p., 20 figs. July 1968. Available at 50¢ from Supt. Documents. WR 134: 19
[FAO/United Nations, Mexico City, Mexico.] History of bat banding, locating bat roosts, collecting methods, holding cages, banding techniques, health

hazards, securing and recording data, supplementary information for banders are the major topics of discussion. Included are a bibliography, checklist of N.A. bats, glossary of terms, and sources of special equipment.

Kunz, Thomas H., and Duane A. Schlitter. AN ANNOTATED CHECKLIST OF BATS FROM IOWA. Trans. Kans. Acad. Sci. 71(2): 166-175. Summer 1968. [From J. Mammal. 50(1), 1969.] WR 134: 20

Mutere, Festo A. THE BREEDING BIOLOGY OF THE FRUIT BAT ROUSETTUS AEGYPTIACUS E. GEOFFROY LIVING AT 0°22' S. Acta Tropica (Basel) 25(?): 97-108. 1968. [From J. Mammal. 50(1), 1969. In English with German and French summ.] WR 134: 20

Patterson, Ann P., and James W. Hardin. FLIGHT SPEEDS OF FIVE SPECIES OF VESPERTILIONID BATS. J. Mammal. 50(1): 152-153. Feb. 1969. WR 134: 20
[Centre Coll., Danville, Ky.] "Pipistrellus subflavus, Myotis sodalis, M. lucifugus, Eptesicus fuscus, and Lasiurus borealis."

Pine, Ronald H. STOMACH CONTENTS OF A FREE-TAILED BAT, MOLOSSUS ATER. J. Mammal. 50(1): 162. Feb. 1969. WR 134: 20
[U.S. Natl. Museum, Washington, D.C.]

Prévost, Francoise. ESPION CHEZ LES TAUPES. [SPYING ON THE MOLES.] Bêtes & Nature 55: 40-43. Aug. 1968. [From J. Mammal. 50(1), 1969. In French.] WR 134: 20
"Talpa."

Stones, Robert C., and Leo P. Branick. USE OF HEARING IN HOMING BY TWO SPECIES OF MYOTIS BATS. J. Mammal. 50(1): 157-160, 1 fig. Feb. 1969. WR 134: 20
[Mich. Technol. Univ., Houghton.] "We conclude from these data that short-distance homing (32 miles) in some bats does not depend necessarily upon vision and that the sense of hearing and echolocation are essential for equally successful homing performance."

RABBITS & PIKAS

Bailey, James A. TRAP RESPONSES OF WILD COTTONTAILS. J. Wildl. Mgmt. 33 (1): 48-52, 2 figs. Jan. 1969. WR 134: 20
[Univ. Mont., Missoula.] Abstract: Effects of weather, season, sex, and age upon the trap responses of wild cottontails (Sylvilagus floridanus) were evaluated using data obtained from September through March in two trapping seasons. Except for adult males, rabbits became more trappable during weather conditions prevailing when barometric pressure was high. Adult males became more trappable during weather including precipitation. Overall, 13% of the variation in trap success was associated with weather factors. Although female rabbits were more trappable than males, the difference was not statistically significant. Rabbits were most trappable at the age of 4-5 months and thereafter became less trappable, especially as adults. A uniform probability of capture did not exist among individuals within sex-age classes. The animals were most trappable during October through December, less trappable during September and January, still less trappable during February, and least trappable during March. Statistical models including sex, age, and month accounted for about 20% of the variation among trap responses. Trap success cannot be a sensitive index to population density and sex-age structures of trapped samples will usually be biased toward overestimation of the proportions of juveniles and females in rabbit populations.

Connolly, Guy E., M. L. Dudziński, and William M. Longhurst. THE EYE LENS AS AN INDICATOR OF AGE IN THE BLACK-TAILED JACK RABBIT. J. Wildl. Mgmt. 33(1): 159-164, 3 figs. Jan. 1969. WR 134: 21
[Univ. Calif., Davis.] Abstract: The eye lens weight-age relationship in 44 known-age black-tailed jack rabbits (Lepus californicus) reared at Hopland, California was expressed by the equation 100/[Age (days) + 53] = 4.375 X -1.686 log Lens Wt. (mg). The lens weight-age relationship in California specimens appeared significantly different from that reported for a Kansas population. Even though the precision of estimates of ages of jack rabbits based upon lens weight decreases as age increases, the lens weight technique of age estimation is preferable to the epiphyseal closure technique.

Hesterman, E. R., and R. Mykytowycz. SOME OBSERVATIONS ON THE ODOURS OF ANAL GLAND SECRETIONS FROM THE RABBIT, ORYCTOLAGUS CUNICULUS (L.). CSIRO Wildl. Res. 13(1): 71-81, 1 fig. Dec. 1968. WR 134: 21
[Div. Wildl. Res., CSIRO, Canberra, Australia.]

Hill, Edward P. III. SOME EFFECTS OF WEATHER ON COTTONTAIL REPRODUCTION IN ALABAMA. Proc. 19th Ann. Conf. SE Assoc. Game & Fish Comms. p. 48-57, 4 figs. 1965 [1966]. WR 134: 21
"It was concluded that extended drought interferes with cottontail rabbit reproduction in 50' by 50' pens. The continuous availability of water and commercial pellets had no apparent effect in preventing the decrease in pregnancy rates, and suggests that green vegetation is necessary for continuous reproduction."

Hill, Edward P. III. A COTTONTAIL RABBIT LENS GROWTH CURVE FROM ALABAMA. Proc. 20th Ann. Conf. SE Assoc. Game & Fish Comms. p. 50-56, 2 figs. 1966 [1967]. WR 134: 21

Hill, Edward P. III. NOTES ON THE LIFE HISTORY OF THE SWAMP RABBIT IN ALABAMA. Proc. 21st Ann. Conf. SE Assoc. Game & Fish Comms. p. 117-123, 1 fig. 1967 [1968]. WR 134: 21
Sex ratios, weights, litter sizes, breeding season and age distribution of Sylvilagus aquaticus.

Hughes, R. L. REPRODUCTION IN WILD POPULATIONS OF THE EUROPEAN HARE LEPUS EUROPAEUS (PALLAS). Austral. Mammal Soc. Bull. 2(2): 38. Dec. 1965. [From J. Mammal. 50(1), 1969.] WR 134: 21

Myrcha, Andrzej. WINTER FOOD INTAKE IN EUROPEAN HARE (LEPUS EUROPAEUS PALLAS, 1778) IN EXPERIMENTAL CONDITIONS. Acta Theriol. 13(28): 453-459, 1 fig. 30 Oct. 1968. In English with Polish summ. WR 134: 21
[Inst. Ecol., Polish Acad. Sci., Nowy Świat 72, Warsaw, Poland.]

Payne, Richard L., and Ernest E. Provost. THE EFFECTS OF SOME ATMOSPHERIC VARIABLES ON ROADSIDE ACTIVITY IN THE COTTONTAIL RABBIT. Proc. 21st Ann. Conf. SE Assoc. Game & Fish Comms. p. 173-182, 6 figs. 1967 [1968]. WR 134: 21
[Univ. Ga., Athens.] Relation of temperature, relative humidity, vapor pressure deficit, and barometric pressure to numbers of Sylvilagus floridanus seen during morning and evening roadside counts.

Rongstad, Orrin J. GROSS PRENATAL DEVELOPMENT OF COTTONTAIL RABBITS. J. Wildl. Mgmt. 33(1): 164-168, 2 figs. Jan. 1969. WR 134: 21
[Univ. Wis., Madison.] Abstract: Measurements of uterine swellings and measurements and weights of embryos were obtained from pregnant cottontail rabbits (Sylvilagus floridanus) whose conception times were known to within ± 12 hours. These measurements can be used to determine conception dates to within 1 day from day 5 until parturition.

Rowley, I. STUDIES ON THE RESURGENCE OF RABBIT POPULATIONS AFTER POISONING. CSIRO Wildl. Res. 13(1): 59-69, 3 figs. Dec. 1968. WR 134: 22
[Div. Wildl. Res., CSIRO, Canberra, Australia.] Subsequent to "1080" poisoning, two factors tend to nullify the control that has been achieved--movement of rabbits into the treated areas and reproduction by the surviving population.

Sadler, Kenneth C. POPULATION TURNOVER AND HARVEST OF THE COTTONTAIL. Mo. Conservationist 30(3): 4-5, illus. Mar. 1969. WR 134: 22
Penned fields of nearly equal carrying capacity were populated with two pairs of cottontails in some pens and eight pairs in others. By fall the populations that had developed were about the same in each of the pens.

RODENTS--MISCELLANEOUS

Adamczyk, Krystyna, and Lech Ryszkowski. ESTIMATION OF THE DENSITY OF A RODENT POPULATION USING STAINED BAIT. Acta Theriol. 13(17): 295-311. 30 Oct. 1968. In English with Polish summ. WR 134: 22
[Inst. Ecol., Polish Acad. Sci., Nowy Świat 72, Warsaw, Poland.] Clethrionomys glareolus and Apodemus flavicollis. Oats stained with basic fuchsin were used as bait. No differences were found between individuals with and without fuchsin as regards age, weight and percentage of ♂♂ and ♀♀ containing fuchsin among the animals caught. Twice as many animals were caught on the border of the study areas than were caught inside them. Removal by capture ends on the third day in the interior part of the areas, and it is characterized by the highest value and constant rate in successive days. On the strength of this finding it was proposed to estimate density in habitats with even distribution of animals on the basis of captures of individuals in the interior part of study areas, converted to unit of area.--From abstr.

Ambrose, Harrison W. III. A COMPARISON OF MICROTUS PENNSYLVANICUS HOME RANGES AS DETERMINED BY ISOTOPE AND LIVE TRAP METHODS. Am. Midland Nat. 81 (2): 535-555, 9 figs. Apr. 1969. WR 134: 22
[Cornell Univ., Ithaca.] This study indicates that the home ranges determined by the isotope method reflect more accurately the true situation than did those ascertained from live-trapping methods. Home ranges estimated by live-trapping methods gave a false impression of the location and actual size of the true home ranges.--From abstr.

Baker, C. E., P. B. Dunaway, and S. I. Auerbach. MEASUREMENT OF METABOLISM IN COTTON RATS BY RETENTION OF CESIUM-134. Oak Ridge Natl. Lab. ORNL-TM-2069. v + 48 p., 11 figs. Feb. 1968. WR 134: 22
Biological half-lives (T_b) of ^{134}Cs were compared with resting metabolism measurements of cotton rats maintained at 5°, 15°, and 25°C in an endeavor to develop a technique for determining respiration rates of animals in the field.--From abstr.

Buchalczyk, Tadeusz, and Zdzisław Pucek. ESTIMATION OF THE NUMBERS OF MICROTUS OECONOMUS USING THE STANDARD MINIMUM METHOD. Acta Theriol. 13(29): 461-482, 9 figs. 28 Dec. 1968. In English with Polish summ. WR 134: 22
[Mammals Res. Inst., Polish Acad. Sci., Białowieża, Poland.] Mean estimates of the vole numbers, as calculated for 6 censuses from rectilinear regression, closely agree with those obtained from truncated distribution, or with total number of voles removed.--From abstr.

Bujalska, Gabriela, Roman Andrzejewski, and Kazimierz Petrusewicz. PRODUCTIVITY INVESTIGATION OF AN ISLAND POPULATION OF CLETHRIONOMYS GLAREOLUS (SCHREBER, 1780). II. NATALITY. Acta Theriol. 13(24): 415-425, 2 figs. 30 Oct. 1968. In English with Polish summ. WR 134: 22
[Inst. Ecol., Polish Acad. Sci., Nowy Świat 72, Warsaw, Poland.]

Bujalska, Gabriela, and Joanna Gliwicz. PRODUCTIVITY INVESTIGATION OF AN ISLAND POPULATION OF CLETHRIONOMYS GLAREOLUS (SCHREBER, 1780). III. INDIVIDUAL GROWTH CURVE. Acta Theriol. 13(25): 427-433, 2 figs. 30 Oct. 1968. In English with Polish summ. WR 134: 23
[Inst. Ecol., Polish Acad. Sci., Nowy Świat 72, Warsaw, Poland.]

Dimmick, Ralph W. THE DISTRIBUTION OF MICROTUS OCHROGASTER IN TENNESSEE. J. Mammal. 50(1): 126. Feb. 1969. WR 134: 23
[Univ. Tenn., Knoxville.]

Drożdż, Andrzej. DIGESTIBILITY AND ASSIMILATION OF NATURAL FOODS IN SMALL RODENTS. Acta Theriol. 13(21): 367-389, 1 fig. 30 Oct. 1968. In English with Polish summ. WR 134: 23
[Jagiellonian Univ., Krupnicza 50, Kraków, Poland.] "Microtus arvalis, Clethrionomys glareolus, Apodemus agrarius, and A. flavicollis."

Fisler, George F. ADAPTATIONS IN MOVEMENT PATTERNS OF TWO SPECIES OF SALT-MARSH RODENTS. Bull. Southern Calif. Acad. Sci. 67(2): 96-103. Apr.-June 1968. [From J. Mammal. 50(1), 1969.] WR 134: 23

Fleharty, Eugene D., and Dennis L. Stadel. DISTRIBUTION OF PEROMYSCUS LEUCOPUS (WOODS MOUSE) IN WESTERN KANSAS. Trans. Kans. Acad. Sci. 71(2): 231-233. Summer 1968. [From J. Mammal. 50(1), 1969.] WR 134: 23

French, Norman R., and Howard W. Kaaz. THE INTRINSIC RATE OF NATURAL INCREASE OF IRRADIATED PEROMYSCUS IN THE LABORATORY. Ecology 49(6): 1172-1179, 5 figs. Autumn 1968. WR 134: 23
[Univ. Calif., Los Angeles.] The life span of deermice (Peromyscus maniculatus sonoriensis) was shortened by exposure to slightly more than 1 roentgen per day of gamma radiation.--Courtesy/ Paul A. Stewart.

Garner, Herschel W. AN ECOLOGICAL STUDY OF THE BRUSH MOUSE, PEROMYSCUS BOYLII, IN WESTERN TEXAS. Texas J. Sci. 19(3): 285-291. Nov. 1967. [From J. Mammal. 50(1), 1969.] WR 134: 23

Ghosh, P. K., and B. S. Gaur. EFFECT OF WATER DEPRIVATION ON ORGAN WEIGHTS IN THE INDIAN DESERT GERBIL, MERIONES HURRIANAE. Indian J. Exptl. Biol. (New Delhi) 4(2): 126-127. Apr. 1966. [From J. Mammal. 50(1), 1969.] WR 134: 23

Ghosh, P. K., and B. S. Gaur. A COMPARATIVE STUDY OF SALT TOLERANCE AND WATER REQUIREMENTS IN DESERT RODENTS, MERIONES HURRIANAE AND GERBILLUS GLEADOWI. Indian J. Exptl. Biol. (New Delhi) 4(4): 228-230. Oct. 1966. [From J. Mammal. 50(1), 1969.] WR 134: 23

Ghosh, P. K., and G. C. Taneja. ESTRUS CYCLE IN THE DESERT RODENTS, TATERA INDICA & MERIONES HURRIANAE. Indian J. Exptl. Biol. (New Delhi) 6(1): 54-55. Jan. 1968. [From J. Mammal. 50(1), 1969.] WR 134: 23

Gliwicz, Joanna, Roman Andrzejewski, Gabriela Bujalska, and Kazimierz Petrusewicz. PRODUCTIVITY INVESTIGATION OF AN ISLAND POPULATION OF CLETHRIONOMYS GLAREOLUS (SCHREBER, 1780). I. DYNAMICS OF COHORTS. Acta Theriol. 13 (23): 401-413, 2 figs. 30 Oct. 1968. In English with Polish summ. WR 134: 23
[Inst. Ecol., Polish Acad. Sci., Nowy Świat 72, Warsaw, Poland.]

Górecki, Andrzej. METABOLIC RATE AND ENERGY BUDGET IN THE BANK VOLE. Acta Theriol. 13(20): 341-365, 4 figs. 30 Oct. 1968. In English with Polish summ. WR 134: 23
[Jagiellonian Univ., Krupnicza 50, Kraków, Poland.] "Clethrionomys glareolus."

Hoffer, Marvin C., Peter C. Passof, and Robert Krohn. FIELD EVALUATION OF DRC-714 FOR DEER-MOUSE CONTROL IN A REDWOOD HABITAT. J. Forestry 67(3): 158-159. Mar. 1969. WR 134: 24

[Bur. Land Mgmt., Redding, Calif.] Abstract: Direct seeding of conifers in western America often results in considerable seed loss to rodents, principally deer mice (Peromyscus spp.). An operational test of the toxicant DRC-714 (O, O, bis [p-chlorophenyl] acetimidoylphos-phoramidothioate) was conducted January 11-February 3, 1966, on deer mice (Peromyscus maniculatus rupidus Osgood) in a redwood type in Humboldt County, California. Wheat bait treated with DRC-714 at the one-seed-lethal concentration was distributed by helicopter on three 5-acre plots and a 95-acre buffer zone at the rate of 0.5 pound per acre. Pre- and posttreatment censuses indicated a 98% reduction in the number of deer mice on the three 5-acre treated plots, and very little change on the 5-acre control plot nearby.

Hoffmeister, Donald F., and Lowell L. Getz. GROWTH AND AGE-CLASSES IN THE PRAIRIE VOLE, MICROTUS OCHROGASTER. Growth 32(1): 57-69. Mar. 1968. [From J. Mammal. 50(1), 1969.] WR 134: 24

Janion, Mirosław, Lech Ryszkowski, and Teresa Wierzbowska. ESTIMATE OF NUMBER OF RODENTS WITH VARIABLE PROBABILITY OF CAPTURE. Acta Theriol. 13(16): 285-294 + 4 figs. 30 Oct. 1968. In English with Polish summ. WR 134: 24

[Inst. Ecol., Polish Acad. Sci., Nowy Świat 72, Warsaw, Poland.] The proposed method for estimating numbers frees the research of the limitations imposed by Hayne's method (the likelihood of catching all the rodents present is uniform, there are no variations in the numbers of rodents during the trapping period) and is analogical to the proposal made by Moran in 1951 and Zippin in 1956. Its application is facilitated by the use of tables making rapid calculation of the required estimate of numbers of rodents possible. The proposed method of calculations also permits estimating the likelihood of capture during different periods of trapping operations.--From abstr.

Janion, Stefan M. CERTAIN HOST-PARASITE RELATIONSHIPS BETWEEN RODENTS (MURIDAE) AND FLEAS (APHANIPTERA). Ekologia Polska--Ser. A 16(28): 561-606, 12 figs. 1968. In English with Polish summ. WR 134: 24

[Polish Acad. Sci., Warsaw, Poland.] The flea infestation of host organisms depends on the number of fleas in the environment of the host organism (2nd order environment), and on the environment formed by the host population (1st order environment).--From abstr.

Keith, K., and J. H. Calaby. THE NEW HOLLAND MOUSE, PSEUDOMYS NOVAE-HOLLANDIAE (WATERHOUSE), IN THE PORT STEPHENS DISTRICT, NEW SOUTH WALES. CSIRO Wildl. Res. 13(1): 45-58, 7 figs. Dec. 1968. WR 134: 24

[Div. Wildl. Res., CSIRO, Canberra, Australia.]

Kellogg, Forest E., Ernest E. Provost, and Michael R. Pelton. DETERMINATION OF A COBALT-60 LD_{50} (30) FOR THE WILD-CAUGHT COTTON RAT (SIGMODON HISPIDUS). Radiation Res. 35(2): 458-464. Aug. 1968. [From J. Mammal. 50(1), 1969.] WR 134: 24

Kirkby, Robert J., and Glenn H. Lackey. SPONTANEOUS ALTERNATION IN MESOCRICETUS AURATUS: AGE DIFFERENCES. Psychon. Sci. 10(7): 257-258. 5 Mar. 1968. [From J. Mammal. 50(1), 1969.] WR 134: 24

Knoch, Harold W. SOFT VINYL COLLARS USED TO MARK EASTERN WOOD RATS (NEOTOMA FLORIDANA). Trans. Kans. Acad. Sci. 71(2): 228-230. Summer 1968. [From J. Mammal. 50(1), 1969.] WR 134: 24

Lee, Chung, and Donald J. Horvath. MANAGEMENT OF THE MEADOW VOLE (MICROTUS PENNSYLVANICUS). Lab. Animal Care 19(1): 88-91, 2 figs. Feb. 1969. WR 134: 24

[W. Va. Univ., Morgantown.]

Lõbmann, P. QUANTITATIVE UNTERSUCHUNGEN AN DER RÖTELMAUS, CLETHRIONOMYS GLAREOLUS (SCHREBER, 1780). [QUANTITATIVE INVESTIGATIONS ON CLETHRIONOMYS GLAREOLUS (SCHREBER, 1780).] Zeit. Säugetierk. 33(3): 129-149. June 1968. [From J. Mammal. 50(1), 1969. In German with English summ.] WR 134: 25

Mullen, David A. REPRODUCTION IN BROWN LEMMINGS (LEMMUS TRIMUCRONATUS) AND ITS RELEVANCE TO THEIR CYCLE OF ABUNDANCE. Univ. Calif. Publ. Zool. 85: 1-24. 1968. [From J. Mammal. 50(1), 1969.] WR 134: 25

Murray, Keith F., and Allan M. Barnes. DISTRIBUTION AND HABITAT OF THE WOODRAT, NEOTOMA FUSCIPES, IN NORTHEASTERN CALIFORNIA. J. Mammal. 50(1): 43-48, 1 fig. Feb. 1969. WR 134: 25

[State Dept. Public Health, Berkeley, Calif.] Abstract: Neotoma fuscipes has been found to occur widely and abundantly over most of the Great Basin sector of northeastern California in juniper woodland, open pine forest, and lava bed habitats. Past records have shown only slight penetration into this region east of the Cascade range. Early collectors found only Neotoma cinerea in localities where N. fuscipes now is abundant. It is suggested that weather extremes or possibly plague epizootics in the past have severely affected the range of N. fuscipes.

Muul, Illar. MATING BEHAVIOR, GESTATION PERIODS, AND DEVELOPMENT OF GLAUCOMYS SABRINUS. J. Mammal. 50(1): 121. Feb. 1969. WR 134: 25

[U.S. Army Med. Res. Unit, Kuala Lumpur, Malaysia.]

Nevo, Eviatar. MOLE RAT SPALAX EHRENBERGI: MATING BEHAVIOR AND ITS EVOLUTIONARY SIGNIFICANCE. Science 163(3866): 484-486, 1 fig. 31 Jan. 1969. WR 134: 25

[Hebrew Univ., Jerusalem, Israel.] Abstract: Mating behavior of the subterranean mole rat, Spalax ehrenbergi, consists of three distinct stages--agonistic, courtship, and copulation. Spalax sexual behavior reflects certain cricetid affinities, some features general in rodents, and others presumably related to its subterranean, territorial life. Within four groups of Spalax ehrenbergi, each with different numbers of chromosomes, recently found in Israel, mating behavior seems to provide partial reproductive barriers. Selective matings between chromosome forms may complement a cytologic isolating mechanism to prevent widespread natural hybridization.

Olszewski, Jerzy L. ROLE OF UPROOTED TREES IN THE MOVEMENTS OF RODENTS IN FORESTS. Oikos 19(1): 99-104. 1968. [From J. Mammal. 50(1), 1969.] WR 134: 25

Petrusewicz, Kazimierz, Roman Andrzejewski, Gabriela Bujalska, and Joanna Gliwicz. PRODUCTIVITY INVESTIGATION OF AN ISLAND POPULATION OF CLETHRIONOMYS GLAREOLUS (SCHREBER, 1780). IV. PRODUCTION. Acta Theriol. 13(26): 435-445, 2 figs. 30 Oct. 1968. In English with Polish summ. WR 134: 25

[Inst. Ecol., Polish Acad. Sci., Nowy Świat 72, Warsaw, Poland.]

Pőka, Géza. [DATA ON THE WINTER REPRODUCTIVE LIFE OF MESOCRICETUS AURATUS.] Állattani Közlemények 55(1-4): 115-118. 1968. [From J. Mammal. 50(1), 1969. In Hungarian.] WR 134: 25

Powell, Jeff. RODENT NUMBERS ON DIFFERENT BRUSH CONTROL TREATMENTS IN SOUTH TEXAS. Texas J. Sci. 20(1): 69-76. 28 May 1968. [From J. Mammal. 50 (1), 1969.] WR 134: 25

Rahm, U. LES MURIDÉS DES ENVIRONS DU LAC KIVU ET DES RÉGIONS VOISINES (AFRIQUE CENTRALE) ET LEUR ÉCOLOGIE. [THE MURIDAE OF THE ENVIRONS OF LAKE KIVU AND OF THE ADJACENT REGIONS (CENTRAL AFRICA) AND THEIR ECOLOGY.] Rev. Suisse Zool. 74(9): 439-519. Sept. 1967. [From J. Mammal. 50(1), 1969. In French.] WR 134: 25

Richmond, Milo, and Clinton H. Conaway. MANAGEMENT, BREEDING, AND REPRODUCTIVE PERFORMANCE OF THE VOLE, MICROTUS OCHROGASTER, IN A LABORATORY COLONY. Lab. Animal Care 19(1): 80-87, 3 figs. Feb. 1969. WR 134: 26
[N.Y. Coop. Wildl. Res. Unit, Ithaca.]

Sawicka-Kapusta, Katarzyna. ANNUAL FAT CYCLE OF FIELD MICE, APODEMUS FLAVICOLLIS (MELCHIOR, 1834). Acta Theriol. 13(19): 329-339, 1 fig. 30 Oct. 1968. In English with Polish summ. WR 134: 26
[Jagiellonian Univ., Krupnicza 50, Kraków, Poland.]

Serafiński, Włodzimierz. ECOLOGICAL STRUCTURE OF THE SPECIES IN MAMMALS. II. THE INTRASPECIFIC DIFFERENTIATION OF THE RED BANK VOLE [CLETHRIONOMYS GLAREOLUS (SCHREB.)] IN THE LIGHT OF ENVIRONMENTAL CONDITIONS. Ekologia Polska--Ser. A 16(8): 193-211, 5 figs. 1968. In English with Polish summ. WR 134: 26
[Ul. Leszczyńska 10, m 44, Warsaw, Poland.] Material on bank voles from 8 environments indicates that taxonomic characteristics are subjected to direct influences by the environment.--From abstr.

Smith, Michael H. SEX RATIOS IN LABORATORY AND FIELD POPULATIONS OF THE OLD-FIELD MOUSE, PEROMYSCUS POLIONOTUS. Res. Population Ecol. 9(2): 108-112. Dec. 1967. In English with Japanese summ. WR 134: 26
[Savannah River Ecol. Lab., Box A, Aiken, S.C.] Summary: Males outnumbered females as juveniles but not as adults among mice captured by hand in their burrows. The higher production of male offspring together with their higher mortality rate resulted in a 1:1 sex ratio for the adult mice. Despite the equal abundance of each sex, more males than females were caught in traps. Males must have a higher chance of encountering a trap and/or of entering a trap after finding it.

Smith, Michael H., and John T. McGinnis. RELATIONSHIPS OF LATITUDE, ALTITUDE, AND BODY SIZE TO LITTER SIZE AND MEAN ANNUAL PRODUCTION OF OFFSPRING IN PEROMYSCUS. Res. Population Ecol. 10(2): 115-126, 3 figs. Dec. 1968. In English with Japanese summ. WR 134: 26
[Savannah River Ecol. Lab., Box A, Aiken, S.C.] Summary: Litter size was positively correlated with latitude and altitude but not with production of offspring or with body size in Peromyscus. Increased litter size in northern populations probably reflects shortening the breeding season by climate and not a greater mortality rate at northern latitudes compared to southern latitudes. Production of offspring was negatively correlated with body size but not with latitude, altitude, or litter size. This is probably due to larger species living longer and taking longer to mature.

Snyder, Donald B. CORPORA BODIES IN THE OVARIES OF MEADOW VOLES (MICROTUS PENNSYLVANICUS) BY SERIAL SECTIONING VERSUS GROSS EXAMINATION. Am. Midland Nat. 81(2): 594-595. Apr. 1969. WR 134: 26
[Geneva Coll., Beaver Falls, Pa.] Abstract: The experimental error in gross examination was 1.6% for corpora lutea and 4.0% for corpora albicantia. The time and effort involved in sectioning does not seem justified.

Spitz, F. INTERACTIONS ENTRE LA VEGETATION EPIGEE D'UNE LUZERNIERE ET DES POPULATIONS ENCLOSE OU NON ENCLOSE DE MICROTUS ARVALIS PALLAS. [INTERACTIONS BETWEEN THE VEGETATION OF AN ALFALFA FIELD AND POPULATIONS OF CONFINED OR FREE-LIVING MICROTUS ARVALIS PALLAS.] Terre & Vie 1968(3): 274-305, 9 figs. July-Sept. 1968. In French with English summ. WR 134: 26
[Inst. Natl. Recherche Agronomique, Jouy-en-Josas (S.-et-O.), France.]

Srivastava, A. S. DYNAMICS OF POPULATION OF FIELD RATS IN RELATION TO THE ALIVE BURROWS. Mammalia 32(2): 164-171. June 1968. [From J. Mammal. 50(1), 1969.] WR 134: 26

Stevenson, Michael, Gary Deatherage, and T. J. LaVaque. EFFECTS OF LIGHT-DARK REVERSAL ON THE ACTIVITY CYCLE OF SIGMODON HISPIDUS. Ecology 49(6): 1162-1163, 1 fig. Autumn 1968. WR 134: 27
[Kans. State Univ., Manhattan.]

Terman, C. Richard. INHIBITION OF REPRODUCTIVE MATURATION AND FUNCTION IN LABORATORY POPULATIONS OF PRAIRIE DEERMICE: A TEST OF PHEROMONE INFLUENCE. Ecology 49(6): 1169-1172, 1 fig. Autumn 1968. WR 134: 27
[Coll. William & Mary, Williamsburg, Va.] Ninety percent of the female prairie deermice (Peromyscus maniculatus bairdii) in a freely growing laboratory population failed to produce young, and the reproductive organs of both sexes of these mice were lighter in weight than in controls. However, reproductive function and maturation appeared to be stimulated by rearing the mice on bedding soiled by the freely growing population.--From abstr. Courtesy/ Paul A. Stewart.

Yanushevich, A. I., editor. [PERNICIOUS RODENTS OF KIRGHIZIA.] Izdat. "Ilim" (Frunze). p. 1-128. 1966. [From J. Mammal. 50(1), 1969. In Russian.] WR 134: 27

RATTUS & MUS

Lloyd, James A., and John J. Christian. REPRODUCTIVE ACTIVITY OF INDIVIDUAL FEMALES IN THREE EXPERIMENTAL FREELY GROWING POPULATIONS OF HOUSE MICE (MUS MUSCULUS). J. Mammal. 50(1): 49-59, 6 figs. Feb. 1969. WR 134: 27
[Res. Lab., Albert Einstein Med. Center, Philadelphia, Pa.] As density increased the intervals between litters born to individual females increased. Factors implicated in affecting reproduction of individuals in this experiment were rank of the females in the social hierarchy, fetal resorption, inhibition of estrus, and sudden increases in infant mortality.--From abstr.

Marsh, Rex E., and Walter E. Howard. EVALUATION OF MESTRANOL AS A REPRODUCTIVE INHIBITOR OF NORWAY RATS IN GARBAGE DUMPS. J. Wildl. Mgmt. 33(1): 133-138, 1 fig. Jan. 1969. WR 134: 27
[Univ. Calif., Davis.] Abstract: Mestranol was evaluated as an estrogenic antifertility agent to control rats at two city garbage dumps; a third dump served as a control. The rat populations were censused five times using snap traps. Bait treated with 0.05% mestranol was spread over two of the dumps on three occasions at intervals of about 30 days. A change in age structure of the rat populations in the treated dumps indicated that reproduction had been inhibited by the first application of mestranol. The effect on reproduction was short-lived, however, presumably because of poor bait acceptance following the initial treatment.

SCIURIDS

Beaudoin, Richard L., David E. Davis, and K. D. Murrell. ANTIBODIES TO LARVAL TAENIA CRASSICEPS IN HIBERNATING WOODCHUCKS, MARMOTA MONAX. Exptl. Parasitol. 24(1): 42-46. Feb. 1969. WR 134: 27
[Naval Med. Res. Inst., Bethesda, Md.]

Dawe, Albert R., and Wilma A. Spurrier. HIBERNATION INDUCED IN GROUND SQUIRRELS BY BLOOD TRANSFUSION. Science 163(3864): 298-299, 1 fig. 17 Jan. 1969. WR 134: 27
[Stritch School Med., Hines, Ill.] Abstract: Natural mammalian hibernation was continuously maintained under laboratory conditions throughout spring and summer seasons in a colony of thirteen-lined ground squirrels [Citellus tridecemlineatus] by serial transfusional passage of blood from hibernating animals to active animals. This procedure successfully produced hibernation in animals until late summer, at which time naturally occurring (spontaneous) hibernations occurred in the colony, thus terminating the experiment.

SCIURIDS--Continued

Flyger, Vagn, and H. Rebecca Cooper. THE UTILIZATION OF NESTING BOXES BY GRAY SQUIRRELS. Proc. 21st Ann. Conf. SE Assoc. Game & Fish Comms. p. 113-117, 2 figs. 1967 [1968]. WR 134: 28
[Univ. Md., College Park.]

Mosby, Henry S. THE INFLUENCE OF HUNTING ON THE POPULATION DYNAMICS OF A WOODLOT GRAY SQUIRREL POPULATION. J. Wildl. Mgmt. 33(1): 59-73, 6 figs. Jan. 1969. WR 134: 28
[Va. Polytech. Inst., Blacksburg.] An average of 37.4% of the squirrels were removed from the exploited population during the 6-year study period. The percentage of the population removed each year varied from a high of 56% to a low of 24%. Based on time-specific vital facts, the removal by hunting of about 38% of the time-specific determined squirrel population did not adversely affect recruitment in the exploited population, had no significant influence on the average annual mortality rate, and probably removed a segment of the population that would normally be lost to "natural losses."--From summ.

Turkowski, Frank J. RESISTANCE OF THE ROUNDTAIL GROUND SQUIRREL (SPERMOPHILUS TERETICAUDUS) TO VENOM OF THE SCORPION (CENTRUROIDES SCULPTURATUS). J. Mammal. 50(1): 160-161. Feb. 1969. WR 134: 28
[Ariz. State Univ., Tempe.]

BEAVER

Stephenson, A. B. TEMPERATURES WITHIN A BEAVER LODGE IN WINTER. J. Mammal. 50(1): 134-136, 2 figs. Feb. 1969. WR 134: 28
[Dept. Lands & Forests, Maple, Ontario, Canada.]

MUSKRAT & NUTRIA

Anderson, Donald L. THE PERSISTENT USE OF A FLOATING BLIND BY MUSKRATS. Am. Midland Nat. 81(2): 601-602. Apr. 1969. WR 134: 28
[Univ. Pa., Philadelphia.] Abstract: Muskrats persistently used a floating blind for a nest site, in which pups were born, in spite of repeated disturbances. Similar blinds could be used to 1) observe muskrat behavior, and 2) study the effects of artifically increased population density.

Ehrlich, S. FIELD STUDIES IN THE ADAPTATION OF NUTRIA TO SEASONAL VARIATIONS. Mammalia 55: 347-360. Sept. 1967. [From Bibliog. Agr. 33(1), 1969.] WR 134: 28

Milne, Robert C., and Thomas L. Quay. THE FOODS AND FEEDING HABITS OF THE NUTRIA ON HATTERAS ISLAND, NORTH CAROLINA. Proc. 20th Ann. Conf. SE Assoc. Game & Fish Comms. p. 112-123, 1 fig. 1966 [1967]. WR 134: 28
[African Wildl. Leadership Foundation, Nairobi, Kenya.]

FUR ANIMALS, GENERAL

Payne, Richard L., James H. Jenkins, and Ernest E. Provost. TRANQUILIZER-EQUIPPED TRAPS AS AN AID TO FURBEARER CENSUS. Proc. 20th Ann. Conf. SE Assoc. Game & Fish Comms. p. 215-219. 1966 [1967]. WR 134: 28
[Univ. Ga., Athens.] Steel traps have long been used as a means of collecting animals for biological purposes. However, such traps have the distinct disadvantage of inflicting severe damage, either directly or indirectly, upon the animals caught. The major portion of such damage seems to occur as the trapped animal struggles to become free. As a means of reducing self-inflicted injury to steel-trapped animals, tranquilizer tabs were constructed for use on steel traps. After an apparent optimum dosage of 200 mg tranimul was determined for fox, bobcat, and raccoon, tabs were affixed to 50 of the 100 steel

traps used during the 1965 SRP furbearer "census." Results of a chi square test applied to data gathered during the 1965 "census" indicated that the use of such tabs significantly reduced trap damage (0.5% confidence level) suffered by steel-trapped animals, and thus should contribute to more efficient recapture census data.--From concl.

BEARS

Choquette, L. P. E., G. G. Gibson, and A. M. Pearson. HELMINTHS OF THE GRIZZLY BEAR, URSUS ARCTOS L., IN NORTHERN CANADA. Canadian J. Zool. 47(2): 167-170. Mar. 1969. WR 134: 29
[Dept. Indian Affairs & Northern Development, Ottawa, Canada.]

de Beaufort, F., and R. Jullien. LES OURS DE LA GROTTE D'HARISTOÏ--ISTURITZ. [THE BEARS OF THE HARISTOÏ GROTTO--ISTURITZ.] Mammalia 32(2): 225-227. June 1968. [From J. Mammal. 50(1), 1969. In French with English summ.] WR 134: 29

Jacobi, E. F. BREEDING FACILITIES FOR POLAR BEARS, THALARCTOS MARITIMUS (PHIPPS, 1774), IN CAPTIVITY. Bijdragen tot de Dierkunde 38: 39-46. 1968. [From J. Mammal. 50(1), 1969. In English with German and French summ.] WR 134: 29

Klataske, Ron. THE GRIZZLY IN MAN'S WORLD. Wyo. Wildl. 33(1): 19-27, illus. Jan. 1969. WR 134: 29
Popular account of trapping, tagging, and monitoring the Yellowstone grizzlies.

Ostroumov, A. G. [AEROVISUAL CENSUS OF BROWN BEARS (URSUS ARCTOS) IN KAMCHATKA AND SOME OBSERVATIONS ON THEIR BEHAVIOR.] Bull. Moscow Soc. Naturalists, Biol. Ser. 73(2): 35-50. 1968. [From J. Mammal. 50(1), 1969. In Russian with English summ.] WR 134: 29

RACCOON, RINGTAIL, COATI

de Beaufort, F. APPARITION DE RATON-LAVEUR, PROCYON LOTOR (L.) EN FRANCE. [APPEARANCE OF THE RACCOON, PROCYON LOTOR (L.) IN FRANCE.] Mammalia 32(2): 307. June 1968. [From J. Mammal. 50(1), 1969. In French.] WR 134: 29

Montgomery, G. G. WEANING OF CAPTIVE RACCOONS. J. Wildl. Mgmt. 33(1): 154-159, 3 figs. Jan. 1969. WR 134: 29
[Univ. Minn., Minneapolis.] Abstract: Stomach contents of captive raccoons (Procyon lotor) indicated that some nursed until they were at least 16 weeks old, although they began eating solid food when 9 weeks old. Young raccoons were capable of moving about their cages and regularly entered and left their nest-boxes after they were 6 to 7 weeks old. Growth rates were depressed while they were 6 to 9 weeks old; rates of growth increased only after they began eating solid food. Functional weaning (the end of complete nutritional dependence on the mother) was apparently a response by young to an upper limit in the ability of captive mother raccoons to produce quantities of milk sufficient to maintain growth of the young.

Sunquist, M. E., G. G. Montgomery, and G. L. Storm. MOVEMENTS OF A BLIND RACCOON. J. Mammal. 50(1): 145-147, 2 figs. Feb. 1969. WR 134: 29
[Univ. Minn., Minneapolis.] "Some mechanism other than sight enabled the blind raccoon to orient within a specific area. Differences between the blind and normal raccoons in activity patterns, travel rates, length of movement periods, and minimum size of home ranges did not appear to be functionally significant and were probably no greater than would be found among normal raccoons."

Turkowski, Frank J., and L. David Mech. RADIO-TRACKING THE MOVEMENTS OF A YOUNG MALE RACCOON. J. Minn. Acad. Sci. 35(1): 33-38, 4 figs. 1968. WR 134: 30

[Ariz. State Univ., Tempe.] Nightly movements varied both in extent and in areas visited during the 4-month study. The greatest length of two-week activity ranges varied from 4,620 to 8,514 feet, and that of the total range was 9,240 feet.--From abstr.

MUSTELIDS

Sekerak, Aaron D. ALARIA TAXIDEAE SWANSON AND ERICKSON 1946 IN PINE MARTEN FROM CENTRAL ALASKA (TREMATODA: DIPLOSTOMATIDAE). Canadian J. Zool. 47(2): 266. Mar. 1969. WR 134: 30

[Univ. Calgary, Calgary, Alberta, Canada.]

van Bree, P. J. H. DEUX EXEMPLES D'APPLICATION DES CRITÈRES D'ÂGE CHEZ LA LOUTRE, LUTRA LUTRA (LINNAEUS, 1758). [TWO EXAMPLES OF THE APPLICATION OF AGING TECHNIQUES TO THE OTTER LUTRA LUTRA (LINNAEUS, 1758).] Beaufortia Zool. Mus. Univ. Amsterdam Misc. Publ. 15(183): 27-32. 17 May 1968. [From J. Mammal. 50(1), 1969. In French with English summ.] WR 134: 30

van Bree, P. J. H. EINIGE BEMERKUNGEN ÜBER DEN GLATTOTTER, LUTROGALE PERSPICILLATA (IS. GEOFFROY, 1826) (CARNIVORA, LUTRINAE), AUS DEM INDO-AUSTRALISCHEN ARCHIPEL. [SOME OBSERVATIONS UPON LUTROGALE PERSPICILLATA (IS. GEOFFROY, 1826) (CARNIVORA, LUTRINAE) IN THE INDO-AUSTRALIAN ARCHIPELAGO.] Der Zool. Garten 35(1/2): 30-36. 1968. [From J. Mammal. 50(1), 1969. In German with English summ.] WR 134: 30

van Bree, P. J. H., Birger Jensen, and L. J. K. Kleijn. SKULL DIMENSIONS AND THE LENGTH/WEIGHT RELATION OF THE BACULUM AS AGE INDICATIONS IN THE COMMON OTTER LUTRA LUTRA (LINNAEUS, 1758). Danish Rev. Game Biol. 4(3): 97-104. 1966. [From J. Mammal. 50(1), 1969.] WR 134: 30

DOGS, WOLVES, FOXES

Ables, Ernest D. ACTIVITY STUDIES OF RED FOXES IN SOUTHERN WISCONSIN. J. Wildl. Mgmt. 33(1): 145-153, 3 figs. Jan. 1969. WR 134: 30

[Texas A&M Univ., College Station.] Abstract: Activities of red foxes (Vulpes fulva) in south-central Wisconsin were monitored during 1964-65 by radio-tracking techniques. Diel activity patterns were determined and related to diel patterns in availability of prey. The foxes were most active at night with a tendency toward crepuscular peaks. In winter the mean level of daytime activity was greater than during other seasons. In general the activity peaks of foxes corresponded to peaks in prey activity. The influences of climatological factors on fox activity were analyzed by the method of multiple linear regression. Factors showing significant correlation with fox activity during spring and summer were mean temperature, precipitation and wind velocity; the latter was positively associated, and the former were negatively associated with fox activity. During fall, mean temperature was the only factor that significantly affected fox activity, lower temperatures being associated with increased activity. During winter, fox activity was inversely related to atmospheric pressure and snow depth. The combined effects of weather factors, as shown by R^2 values, were greatest during winter. It is not clear in all cases how weather factors influence fox activity. Temperature, wind, precipitation, and snow depth can directly influence the welfare and comfort of a fox, but the mechanism whereby pressure affects activity remains obscure.

Ables, Ernest D. HOME-RANGE STUDIES OF RED FOXES (VULPES VULPES). J. Mammal. 50(1): 108-120, 6 figs. Feb. 1969. WR 134: 31
[Texas A&M Univ., College Station.] Abstract: Home ranges of eight red foxes in south-central Wisconsin were studied by telemetry techniques in 1964 and 1965. Frequency-distribution graphs of activity radii revealed characteristics of ranges, but testing for kurtosis and skewness did not always reveal limits to range. A combination of mathematical analyses and subjective appraisal was used to draw range boundaries. Range sizes of 142 to 400 acres for seven foxes in an area of great ecological diversity were smaller than a range of 2 square miles for an adult male in a less diverse farming section. Shapes of ranges tended to be linear with linearity partially associated with habitat features. Patterns of home-range use were approximately described by the geometric distribution with deviation from the geometric caused by sectors of concentrated use. The time required to measure adequately the home ranges varied from 5 to 16 days depending on patterns of daily use. A suggestion of territorial behavior was noted between two adult females.

Chesemore, David L. DEN ECOLOGY OF THE ARCTIC FOX IN NORTHERN ALASKA. Canadian J. Zool. 47(1): 121-129, 8 figs. Jan. 1969. WR 134: 31
[Okla. State Univ., Stillwater.] Abstract: During July and August 1962, 50 Arctic fox dens were studied on The Teshekpuk Lake Section of the Alaskan Arctic Slope. Depth to permafrost and soil texture govern location of fox dens in low, icecore mounds with a minimum mound height of 1 m necessary for the establishment of a successful den. Soil temperatures at den sites were higher than those in nearby non-den habitats. The presence of the fox den alters plant growth near the burrow, changing the typical tundra community into a lush, vigorous one dominated by grasses.

Gier, H. T. COYOTES IN KANSAS. Kans. State Univ., Agr. Expt. Sta. Bull. 393. 118 p., 36 figs. Dec. 1968. Revised ed. WR 134: 31
[Kans. Agr. Expt. Sta., Manhattan.] Includes results of food studies, economic losses to coyotes, benefits from coyotes, their reproduction, growth, and population trends, and methods of control. Original edition listed in WR 90: 43.

Hnatiuk, Joseph M. OCCURRENCE OF ECHINOCOCCUS MULTILOCULARIS LEUCKART, 1863 IN VULPES FULVA IN SASKATCHEWAN. Canadian J. Zool. 47(2): 264. Mar. 1969. WR 134: 31
[Dept. Nat. Resources, Saskatoon, Saskatchewan, Canada.]

Kilgore, Delbert L., Jr. AN ECOLOGICAL STUDY OF THE SWIFT FOX (VULPES VELOX) IN THE OKLAHOMA PANHANDLE. Am. Midland Nat. 81(2): 512-534, 9 figs. Apr. 1969. WR 134: 31
[Univ. Kans., Lawrence.] Dens, breeding habits, growth and development, parasites, mortality, movements, and food habits are the major topics of discussion.

Lauer, B. H., E. Kuyt, and B. E. Baker. WOLF MILK. I. ARCTIC WOLF (CANIS LUPUS ARCTOS) AND HUSKY MILK: GROSS COMPOSITION AND FATTY ACID CONSTITUTION. Canadian J. Zool. 47(1): 99-102. Jan. 1969. WR 134: 31
[McGill Univ., Macdonald College P.O., Quebec, Canada.]

Lee, David S., and Ernest Bostelman. THE RED FOX IN CENTRAL FLORIDA. J. Mammal. 50(1): 161. Feb. 1969. WR 134: 31
[20 Linden Terrace, Towson, Md.] "Vulpes vulpes."

MacPherson, A. H. APPARENT RECOVERY OF TRANSLOCATED ARCTIC FOX. Canadian Field-Nat. 82(4): 287-289, 1 fig. Oct.-Dec. 1968. WR 134: 31
[Sci. Secretariat, Ottawa, Ontario, Canada.] The distance between the points of escape and recovery was more than 700 miles; the reported sex of the captured fox differed from that of the tagged one. The recovery location was only 250 air miles off a line joining capture and escape points.

Mech, L. David, and L. D. Frenzel, Jr. A SECOND PROGRESS REPORT...CONTINUING TIMBER WOLF STUDIES. Naturalist 20(1): 30-35, illus. Spring 1969. WR 134: 32
Wolf predation on deer in the Superior National Forest appears to concentrate on the smallest deer age class, with 59% of the deer being 4.5 years old or older.

Storm, G. L., and Glen C. Sanderson. EFFECT OF MEDROXYPROGESTERONE ACETATE (PROVERA) ON PRODUCTIVITY IN CAPTIVE FOXES. J. Mammal. 50(1): 147-149. Feb. 1969. WR 134: 32
[Cedar Creek Nat. Hist. Area, Bethel, Minn.] "Production of pups by the treated foxes was significantly lower than for controls for the first post-treatment whelping season. The number of pups per female averaged 2.2 and 4.7, respectively, for the 10 treated and the 10 control vixens in 1966, and 0.7 and 3.9, respectively, for the 10 treated and the 10 control vixens in 1967. These differences were significant ($P < 0.01$) for both years. Size of litters produced by treated females were similar to those of controls. Thus, the reduction in productivity was apparently because of the smaller proportion of the treated females that produced litters, rather than to a decrease in litter size for treated vixens."

CATS

de Beaufort, F. SURVIVANCE DU LYNX DANS LE PARC NATIONAL DES PYRÉNÉES OCCIDENTALES. [SURVIVAL OF THE LYNX IN THE WESTERN PYRENEES NATIONAL PARK.] Mammalia 32(2): 207-210. June 1968. [From J. Mammal. 50(1), 1969. In French with English summ.] WR 134: 32

Kratochvîl, Josef, and others. HISTORY OF THE DISTRIBUTION OF THE LYNX IN EUROPE. Acta Sc. Nat. Brno 2(4): 1-50. 1968. [From J. Mammal. 50(1), 1969.] WR 134: 32

Kratochvîl, Josef, and others. RECENT DISTRIBUTION OF THE LYNX IN EUROPE. Acta Sc. Nat. Brno 2(5/6): 1-74. 1968. [From J. Mammal. 50(1), 1969.] WR 134: 32

Marshall, A. D., and J. H. Jenkins. MOVEMENTS AND HOME RANGES OF BOBCATS AS DETERMINED BY RADIO-TRACKING IN THE UPPER COASTAL PLAIN OF WEST-CENTRAL SOUTH CAROLINA. Proc. 20th Ann. Conf. SE Assoc. Game & Fish Comms. p. 206-214, 3 figs. 1966 [1967]. WR 134: 32
[Univ. Ga., Athens.] Home ranges determined for three bobcats were as follows: (1) An adult female located 256 times had an approximate range of 1,142 acres. (2) A young male located 197 times had an approximate range of 886 acres. (3) A young female located 119 times had an approximate range of 610 acres.--From summ.

Schaller, George B. HUNTING BEHAVIOUR OF THE CHEETAH IN THE SERENGETI NATIONAL PARK, TANZANIA. East African Wildl. J. 6: 95-100. Aug. 1968. WR 134: 32
[Rockefeller Univ., New York, N.Y.]

BIG GAME, GENERAL

Ahti, T., and R. L. Hepburn. PRELIMINARY STUDIES ON WOODLAND CARIBOU RANGE, ESPECIALLY ON LICHEN STANDS, IN ONTARIO. Ontario Dept. Lands & Forests, Res. Rept. (Wildl.) no. 74. ii + 134 p., 31 figs. Mar. 1967. WR 134: 32
[Univ. Helsinki, Helsinki, Finland.] In 1958 an extensive survey of northern Ontario was made with the purpose of describing and classifying the vegetation, and particularly the lichen resources, of this area as habitat for woodland caribou (Rangifer tarandus caribou). Distribution and ecology of 38 of the most abundant macrolichens are discussed. On the basis of broad land types and

availability of lichens, seven major divisions of the caribou range are proposed, and estimates are given for carrying capacity in each. It appears that present food supplies could support about six times as many caribou as now occupy the range, particularly north of 53°N lat. Controlled burning is suggested as the best method of range management. Keys to 138 macrolichens are included.--From abstr.

Anghi, Csaba. [MILK PRODUCTION OF ALCES. III. THE STRUCTURE OF RIBS AND THORAX AS INDICATORS OF MILK AND MEAT PRODUCTION.] Állattani Közlemények 55 (1-4): 23-28. 1968. [From J. Mammal. 50(1), 1969. In Hungarian with German summ.] WR 134: 33

Azavedo, J. C. S., and A. D. Q. Agnew. RIFT VALLEY IMPALA FOOD PREFERENCES. East African Wildl. J. 6: 145-146. Aug. 1968. WR 134: 33
[Univ. Coll., P.O. Box 30197, Nairobi, Kenya.]

Berestennikov, D. S. CERVUS NIPPON HORTULORUM SWINHOE IN THE BLACK SEA RESERVATION. Vestnik Zool. 1: 30-36. 1968. [From J. Mammal. 50(1), 1969. In Russian with English summ.] WR 134: 33

Bromley, Peter T. TERRITORIALITY IN PRONGHORN BUCKS ON THE NATIONAL BISON RANGE, MOIESE, MONTANA. J. Mammal. 50(1): 81-89, 9 figs. Feb. 1969. WR 134: 33
[3215 Boulevard Rd., Olympia, Wash.] Abstract: The behavior of seven different mature male pronghorns (Antilocapra americana) was studied for 102.6 hours during the rut season of 1966 on the National Bison Range in Montana. The bucks were in non-overlapping territories of 1/16 to 1/8 square miles. A buck on his territory displayed aggressive behavior to males that looked toward him or exposed the sides of their bodies to him. The bucks defended their areas against yearling bucks in all 131 interactions, and against other adult bucks in 69 of 73 similar encounters.

Chapman, D. I., and Norma G. Chapman. GEOGRAPHICAL VARIATION IN FALLOW DEER (DAMA DAMA L.). Nature 221(5175): 59-60. 4 Jan. 1969. WR 134: 33
[Equine Res. Sta., Newmarket, Suffolk, England.] There is a definite difference in the diastema length expressed as a percentage of mandibular length between various populations of fallow deer. This provides an index which is independent of age and which can be used to compare mandibles of fossil fallow deer with contemporary specimens.

Chroust, K., and V. Dyk. NEOSTRONGYLUS LINEARIS FROM MOUFLON IN THE WOODS OF VRANOV NEAR BRNO. Folia Parasitol. (Prague) 15(2): 178. 1968. [From J. Mammal. 50(1), 1969.] WR 134: 33

Chudik, I. [REVIEWS ON INJURIES TO FORESTS CAUSED BY GNAWING AND NIBBLING OF HOOFED WILDLIFE.] Les (Bratislava) 24(6): 265-267. 1968. [From Bibliog. Agr. 33(1), 1969. In Czech.] WR 134: 33

Egorov, O. V. WILD UNGULATES OF YAKUTIA. Published for the U.S. Department of the Interior and the National Science Foundation, Washington, D.C., by the Israel Program for Scientific Translations (Jerusalem). TT 67-51246. vii + 204 p., 21 figs. 1967. Russian original from Izdat. "Nauka" (Moscow) 1965. [Translation available from U.S. Dept. Commerce, Clearinghouse for Federal Scientific and Technical Information, Springfield, Va.] WR 134: 33
The morphological and biological characteristics of the musk deer (Moschus moschiferus), roe deer (Capreolus capreolus), red deer (Cervus elaphus), elk (Alces alces), wild reindeer (Rangifer tarandus), and bighorn sheep (Ovis canadensis) are described and interspecific competition, enemies and parasites, the main habitats of the ungulates, the influence of environmental factors on their distribution, and prospects for their economic exploitation are discussed.

Espmark, Yngve. OBSERVATIONS OF DEFENCE REACTIONS TO OESTRID FLIES BY SEMIDOMESTIC FOREST REINDEER (RANGIFER TARANDUS L.) IN SWEDISH LAPLAND. Zool. Beitr. 14(1/2): 155-167. Apr. 1968. [From J. Mammal. 50(1), 1969.] WR 134: 34

Evans, Philip K. THE AOUDAD SHEEP / AN EXOTIC INTRODUCED IN THE PALO DURO CANYON OF TEXAS. Proc. 21st Ann. Conf. SE Assoc. Game & Fish Comms. p. 183-188. 1967 [1968]. WR 134: 34
[Texas Parks & Wildl. Dept., Austin.] Aoudad sheep compete directly with mule deer and to some extent with livestock in the Palo Duro Canyon. However, the aoudad sheep browses the more difficult and rugged areas of the canyon while the mule deer usually stays on the gentler slopes of the canyon. The aoudad then uses vegetation that the deer will not or cannot browse. The Palo Duro Canyon is surrounded by prairie and rolling plains country. The likelihood of an undesirable cursorial species expanding from the Palo Duro Canyon is very small.--From discussion.

Geisbacher, M. [TESTING NEW PROTECTION PREPARATIONS AGAINST TREE INJURIES BY DEER.] Les (Bratislava) 24(7): 311-313. 1968. [From Bibliog. Agr. 33(1), 1969. In Czech.] WR 134: 34

Goddard, John. FOOD PREFERENCES OF TWO BLACK RHINOCEROS POPULATIONS. East African Wildl. J. 6: 1-18 + [2 figs. on 1 pl.]. Aug. 1968. WR 134: 34
[Tsavo Res. Project, P.O. Box 14, Voi, Kenya.]

Greer, Kenneth R. FEMUR MARROW REVEALS THE CONDITION OF GAME ANIMALS. Mont. Fish & Game Dept. 10 p., 10 figs. Jan. 1969. WR 134: 34
A method of estimating fat content of femur marrow in elk is described. The marrow is removed, cut to a standard size, and placed on end to measure per cent of compression.

Henry, Vernon G. EUROPEAN WILD HOG HUNTING SEASON RECOMMENDATIONS BASED ON REPRODUCTIVE DATA. Proc. 20th Ann. Conf. SE Assoc. Game & Fish Comms. p. 139-145. 1966 [1967]. WR 134: 34
[Tenn. Game & Fish Comm., Tellico Plains.] Wild sows are physiologically capable of farrowing during any season of the year. However, there are two main farrowing periods: mid-winter (January and February) and early summer (May and June). The August-November period has the highest number of juveniles per female and is thus the period of the highest population. August would probably be the month best suited for hog hunting to minimize harmful effects to the reproductive capacity of the herd. Because an August hunting season is impractical, due to the climate and terrain, it is concluded that the fall hunts in November, as now conducted, are the most desirable of the possible hunting periods.--From abstr.

Henry, Vernon G. ESTIMATING WHOLE WEIGHTS FROM DRESSED WEIGHTS FOR EUROPEAN WILD HOGS. J. Wildl. Mgmt. 33(1): 222-225, 2 figs. Jan. 1969. WR 134: 34
[Tenn. Game & Fish Comm., Tellico Plains.]

Henshaw, J. THE ACTIVITIES OF THE WINTERING CARIBOU IN NORTHWESTERN ALASKA IN RELATION TO WEATHER AND SNOW CONDITIONS. Intern. J. Biometeor. (Amsterdam) 12(1): 21-27. Jan. 1968. [From J. Mammal. 50(1), 1969.] WR 134: 34

Hirst, S. M. ROAD-STRIP CENSUS TECHNIQUES FOR WILD UNGULATES IN AFRICAN WOODLAND. J. Wildl. Mgmt. 33(1): 40-48. Jan. 1969. WR 134: 34
[Utah State Univ., Logan.] Abstract: Two road-strip census techniques were tested for accuracy and variability on a known blesbok (Damaliscus dorcas) population in temperate grassland. One technique used the mean visibility field as determined from a series of visibility measurements made along the cruise-line as half the width of the censused strip. The second method was based on Kelker's belt-transect method. The mean visibility method gave a good estimate of population numbers; the belt-transect method underestimated the

true population and variability was high. The mean visibility method was subsequently used to census several ungulate populations in sub-tropical Transvaal Lowveld woodland, where it gave good mean estimates of population density, but confidence limits were wide.

Hofmann, R. R., and P. Scholz. APPLIED TOPOGRAPHIC-ANATOMICAL STUDIES OF EAST AFRICAN GAME RUMINANTS. East African Wildl. J. 6: 107-123, 14 figs. + 4 pls. Aug. 1968. WR 134: 35

[Univ. Coll., P.O. Box 30197, Nairobi, Kenya.] Summary: The topographic relationships of the so-called "vital centres" like the spinal chord, brain, heart and major blood vessels of East African game ruminants are discussed, using the impala and the buffalo as type animals for a series of diagrams. Anatomical conditions in relation to the effect of shots in the various body regions are demonstrated with the aim of reducing irresponsible and painful wounding of game animals. Investigations and diagrams are based upon material from 59 animals of 18 spp.; of these, 47 animals were formalin-fixed and dissected in a natural standing position.

Hornocker, Maurice G. DEFENSIVE BEHAVIOR IN FEMALE BIGHORN SHEEP. J. Mammal. 50(1): 128. Feb. 1969. WR 134: 35

[Coop. Wildl. Res. Unit, Univ. Idaho, Moscow.]

Jakle, John A. THE AMERICAN BISON AND THE HUMAN OCCUPANCE OF THE OHIO VALLEY. Proc. Am. Phil. Soc. 112(4): 299-305. 15 Aug. 1968. [From J. Mammal. 50(1), 1969.] WR 134: 35

Keiss, Robert E. COMPARISON OF ERUPTION-WEAR PATTERNS AND CEMENTUM ANNULI AS AGE CRITERIA IN ELK. J. Wildl. Mgmt. 33(1): 175-180. Jan. 1969. WR 134: 35

[Colo. Game, Fish & Parks Dept., Fort Collins.] Abstract: An objective method for estimating the age of elk (Cervus canadensis) based on cementum annuli counts in stained sections of first incisor roots was developed. Ages estimated from cementum annuli structures agreed with the known ages of 18 elk used to check reliability of the technique. Eruption-wear age estimates by biologists working at elk check stations were compared to ages assessed from the dental cementum. Only 50% agreement was recorded between these two aging techniques when elk were placed in specific age groups.

Laws, R. M. DENTITION AND AGEING OF THE HIPPOPOTAMUS. East African Wildl. J. 6: 19-52, 16 figs. Aug. 1968. WR 134: 35

[Univ. Cambridge, Cambridge, England.] Comparisons were made of ten different checks on the general age pattern of Hippopotamus amphibius and it was concluded that the various age criteria could "be used with confidence to estimate the chronological ages of hippopotamus in the present Lake Edward-Lake George populations. The same relative age groups can be used to describe hippopotamus in other localities but different absolute ages may apply to these groups."

Lowry, Dick III. WAPITI ROUNDUP. Outdoor Okla. 25(3): 8-11, 14-15, illus. Mar. 1969. WR 134: 35

More than 200 elk were driven into catch pens and transported to suitable habitat.

Lyon, Ray B. TROUBLE ON THE WINTER RANGE. Idaho Wildl. Rev. 21(4): 7-9, illus. Jan.-Feb. 1969. WR 134: 35

[Idaho Fish & Game Dept., Hailey.] Dog packs are capable of killing bull elk as well as deer. Most killings occur between daybreak and noon, apparently when household pets are turned loose for a morning run.

Matschke, George H., and John P. Hardister. MOVEMENTS OF TRANSPLANTED EUROPEAN WILD BOAR IN NORTH CAROLINA AND TENNESSEE. Proc. 20th Ann. Conf. SE Assoc. Game & Fish Comms. p. 74-84, 2 figs. 1966 [1967]. WR 134: 36
[Univ. Tenn.-AEC Agr. Res. Lab., Oak Ridge, Tenn.] Hunter-killed boars had traveled airline distances of from one-half mile to approximately 14 miles from the release site and were killed at time intervals ranging from one day to over three years following the release date. None of the 91 transplanted wild boar was known to return to the Great Smoky Mountains National Park as determined both by a continuous trapping program and the direct removal of 44 additional animals from areas of heavy concentration within the park.--From abstr.

McBee, Richard H., John L. Johnson, and Marvin P. Bryant. RUMINAL MICRO-ORGANISMS FROM ELK. J. Wildl. Mgmt. 33(1): 181-186. Jan. 1969. WR 134: 36
[Mont. State Univ., Bozeman.]

McCutchen, Henry E. AGE DETERMINATION OF PRONGHORNS BY THE INCISOR CEMENTUM. J. Wildl. Mgmt. 33(1): 172-175, 3 figs. Jan. 1969. WR 134: 36
[Univ. Mont., Missoula.] Abstract: An examination of stained sections of the first permanent incisor teeth of pronghorns (Antilocapra americana) showed that the number of cementum annuli is correlated with age. Ten known-age pronghorns from 1.5 to 6.33 years of age were used to confirm the technique.

Mugera, G. M. SARCOSPORIDIOSIS IN GAZELLES IN KENYA. East African Wildl. J. 6: 139-140. Aug. 1968. WR 134: 36
[Univ. Coll., P.O. Box 30197, Nairobi, Kenya.]

Nikolandić, Đuro. EKOLOŠKE KARAKTERISTIKE POPULACIJE SRNA NA BELJU. [ECOLOGIC CHARACTERISTICS OF ROE DEER POPULATION IN BELJE DISTRICT.] Jelen 7: 73-95, 7 figs. 1968. In Serbo-Croatian with Russian and English summ. WR 134: 36

Pienaar, U. de V. RECENT ADVANCES IN THE FIELD IMMOBILIZATION AND RESTRAINT OF WILD UNGULATES IN SOUTH AFRICAN NATIONAL PARKS. Acta Zool. & Pathol. 1968 (46): 17-38, 10 figs. June 1968. In English with Dutch, French, and German summ. WR 134: 36
[Skukuza, Kruger Natl. Park, Transvaal, South Africa.] Several neuroleptic drugs of the butyrophenone series have been field-tested on a variety of wild ungulates. The drugs Fluanisone and Azaperone appear superior for use in neurolept-analgesic mixtures to any of the phenothiazine derivatives in current use today. Fentanyl is regarded as a safe substitute for Etorphine hydrochloride. A possible remedy for the mydriasis and cycloplegia caused by Scapolamine in neurolept-analgesic mixtures is suggested.--From summ.

Pienaar, U. de V. THE USE OF IMMOBILIZING DRUGS IN CONSERVATION PROCEDURES FOR ROAN ANTELOPE. Acta Zool. & Pathol. 1968(46): 39-51, 8 figs. June 1968. In English with Dutch, French, and German summ. WR 134: 36
[Skukuza, Kruger Natl. Park, Transvaal, South Africa.] Ten Hippotragus e. equinus were drug-immobilized and transported to new release sites. Drug dosages and animal reactions to the drugs are discussed.

Plummer, A. Perry, Donald R. Christensen, and Stephen B. Monsen. RESTORING BIG-GAME RANGE IN UTAH. Utah Div. Fish & Game Publ. no. 68-3. 183 p., 95 figs. 1968. WR 134: 36
[Intermountain Forest & Range Expt. Sta., Ephraim, Utah.] Major chapter headings are: Principles and procedures of successful range restoration, Guides for seeding specific vegetal types, and Major species for use in game range reforestation.

Prenzlow, E. J., D. L. Gilbert, and F. A. Glover. SOME BEHAVIOR PATTERNS OF THE PRONGHORN. Colo. Dept. Game, Fish & Parks Spec. Rept. no. 17. iv + 16 p., 3 figs. June 1968. Available at $1.00 from Colo. Game, Fish & Parks Dept., Denver. WR 134: 37

[Box 567, Fort Collins, Colo.] Pronghorns have a definite schedule of daily activities which are influenced by weather conditions, time of year, physiological processes, inter- and intra-specific relationships, high humidity and temperature. Leadership in most social groups, except bachelor herds, is assumed by an adult female, and males usually are the dominant individuals in all social groups except the female-kid groups.--From abstr.

Prisjazhnjuk, V. E. DETERMINATION OF AGE OF SIKA DEER FROM THE LAMINATION ON THE INCISORS CEMENT. Bull. Moscow Soc. Naturalists, Biol. Ser. 73(2): 51-63. 1968. [From J. Mammal. 50(1), 1969. In Russian with English summ.] WR 134: 37

Sowls, Lyle K., and Robert J. Phelps. OBSERVATIONS ON THE AFRICAN BUSHPIG POTAMOCHOERUS PORCUS LINN. IN RHODESIA. Zoologica 53(3): 75-84, 8 figs. + 2 pls. Fall 1968. WR 134: 37

[Ariz. Coop. Wildl. Res. Unit, Tucson.] Records of growth rates, weights and measurements, notes on reproduction and behavior, food habits, and methods of control of bush pigs.

Spinage, C. A. HORNS AND OTHER BONY STRUCTURES OF THE SKULL OF THE GIRAFFE, AND THEIR FUNCTIONAL SIGNIFICANCE. East African Wildl. J. 6: 53-61, 5 figs. + 1 pl. Aug. 1968. WR 134: 37

[Steventon Rd., East Hanney, Wantage, Berkshire, England.]

Spinage, C. A. A QUANTITATIVE STUDY OF THE DAILY ACTIVITY OF THE UGANDA DEFASSA WATERBUCK. East African Wildl. J. 6: 89-93, 4 figs. Aug. 1968. WR 134: 37

[Steventon Rd., East Hanney, Wantage, Berkshire, England.] Summary: Waterbuck activity was recorded at four-minute intervals for continuous periods of 12 hours on two or three consecutive days, and for single nocturnal periods. Feeding patterns of the male and female were similar and during the day there was no hour during which some feeding did not take place. Only male activity was recorded at night. This showed more intensive feeding but with periods of no feeding just after dark and just before dawn. The use of a four-minute recording interval was found to work well in practice.

Taylor, C. R. THE ELAND AND THE ORYX. Sci. Am. 220(1): 88-95, [13 figs.]. Jan. 1969. WR 134: 37

[Duke Univ., Durham, N.C.] "Survival without drinking is possible for the oryx and the eland because their food contains almost all the water they need. Even in droughts the leaves of the acacia, the eland's preferred fodder, are 58% water. The leaves of a shrub, Disperma, and other fodder preferred by the oryx contain little water by day but may average 30% water at night. Thus the amount of water each animal can obtain by feeding is more than the animal needs for survival in a moderate environment when dehydrated and closely approaches the quantities necessary for both antelopes' survival under desert conditions."

DEER (Odocoileus)

Baker, Maurice F., and Francis X. Lueth. MANDIBULAR CAVITY TISSUE AS A POSSIBLE INDICATOR OF CONDITION IN DEER. Proc. 20th Ann. Conf. SE Assoc. Game & Fish Comms. p. 69-74, 1 fig. 1966 [1967]. WR 134: 37

[Ala. Coop. Wildl. Res. Unit, Auburn.] Abstract: Preliminary data suggest that the fat content of the soft tissue in the cavity under the grinding teeth of the mandible might be a useful indicator of condition in deer. Seven physical characteristics were measured on 85 deer. Statistical treatment of

these data suggest a strong relationship between the fat content of the mandibular cavity tissue and the condition of the deer. Three of the five best correlations were between mandibular cavity tissue fat and other characteristics related to condition. Simple means of mandibular cavity tissue fat separated out three condition classes of deer effectively. Further research on the subject is suggested.

Beckwith, S. L., and L. G. Stith. DEER DAMAGE TO CITRUS GROVES IN SOUTH FLORIDA. Proc. 21st Ann. Conf. SE Assoc. Game & Fish Comms. p. 32-38, 1 fig. 1967 [1968]. WR 134: 38

[Univ. Fla., Gainesville.] Ten out of 105 grove managers who responded to a questionnaire survey acknowledged deer damage to 94,000 citrus trees during the period 1963 to 1965. The most common types of damage were retarding growth from six to twelve months (44%) and reducing the fruit crop (29%). Killing of the trees accounted for 8% of the damage. Negligible damage occurred to 20% of the trees. December and January were the most critical months. The costs of protecting citrus trees from deer damage by repellents may range from $2.50 to $11.50 per acre over a period of two years for a 160-acre grove, depending upon whether only a portion or the entire grove is treated. Fencing out deer would cost from about $12.50 per acre if locally cut, untreated posts were used to $16.00 per acre if creosote-treated posts were used. Effectiveness of various repellents was measured, and preferences of citrus varieties were ranked.--From summ.

Blair, R. M., and L. K. Halls. GROWTH AND FORAGE QUALITY OF FOUR SOUTHERN BROWSE SPECIES. Proc. 21st Ann. Conf. SE Assoc. Game & Fish Comms. p. 57-62, 4 figs. 1967 [1968]. WR 134: 38

[Southern Forest Expt. Sta., Nacogdoches, Texas.] "Rusty blackhaw, yaupon, common greenbrier, and yellow jessamine."

Bridges, Robert J. INDIVIDUAL WHITE-TAILED DEER MOVEMENT AND RELATED BEHAVIOR DURING THE WINTER AND SPRING IN NORTHWEST FLORIDA. M.S. thesis, Univ. Ga. 86 p. 1968. WR 134: 38

Courtesy/ Julie L. Moore.

Carpenter, Max. METHODS OF REPELLING DEER IN GARDENS, ORCHARDS AND FIELDS IN VIRGINIA. Proc. 20th Ann. Conf. SE Assoc. Game & Fish Comms. p. 233-235. 1966 [1967]. WR 134: 38

[Va. Comm. Game & Inland Fisheries, Richmond.] Tankage rated highest of repellents used but deer-proof fences were more effective than any repellent materials tested.

Cowan, R. L., E. W. Hartsook, J. B. Whelan, T. A. Long, and R. S. Wetzel. A CAGE FOR METABOLISM AND RADIOISOTOPE STUDIES WITH DEER. J. Wildl. Mgmt. 33 (1): 204-208, 8 figs. Jan. 1969. WR 134: 38

[Pa. State Univ., University Park.] Abstract: A metabolism cage for deer is described, suitable for digestion trials and radioisotope balance studies. Disposable (sheet plastic) collection apparatus is designed for isotope studies to facilitate decontamination. For digestion trials, alternative metal collection apparatus is recommended.

Dale, Edward E., Jr., John P. Sullins, and Thomas L. Foti. FINAL REPORT ON UNDERSTORY VEGETATION AND SOILS IN DEER ENCLOSURES. Ark. Game & Fish Comm. and Univ. Ark. 38 p., 2 figs. [1968.] WR 134: 38

Soil samples and foliage clippings were collected and analyzed. Twenty-six statistically valid correlations between soil factors and vegetation were found.

Dechert, James A. THE EFFECTS OF OVERPOPULATION AND HUNTING ON THE FORT KNOX DEER HERD. Proc. 21st Ann. Conf. SE Assoc. Game & Fish Comms. p. 15-23, [2 figs.]. 1967 [1968]. WR 134: 39

[Wildl. Biol., Office of Engineer, Fort Knox, Ky.] The Fort Knox Military Reservation began to show signs of overbrowsing eight years after stocking with white-tailed deer (Odocoileus virginianus). Data collected annually on the reservation's deer herd during the deer hunting season indicated a rapid decline of the deer's physical condition as the wintering population increased from 5,500 to 9,000 during the period 1962-1965 and the deer range became overpopulated. Average dressed weights of yearling bucks and fawns decreased 16-18% while those of yearling does decreased 11% from 1958-1965. Average antler beam diameters of yearling bucks deteriorated 18% and "spiked" yearlings increased from 10% to 24% from 1960 to 1965. The reproductive rate dropped 47% from 1960 to 1965. A thinning of the deer density in overpopulated areas in 1965 resulted in a partial recovery of antler development, body weight and productivity in 1966 in spite of the wintering population size remaining approximately the same as the previous year.--From abstr.

Downing, Robert L., William H. Moore, and Joe Kight. COMPARISON OF DEER CENSUS TECHNIQUES APPLIED TO A KNOWN POPULATION IN A GEORGIA ENCLOSURE. Proc. 19th Ann. Conf. SE Assoc. Game & Fish Comms. p. 26-30. 1965 [1966]. WR 134: 39

[Bur. Sport Fisheries & Wildl., Asheville, N.C.] The accuracy with which pellet group counts, track counts, drive censuses, strip counts and hunter observations estimated the true deer population or detected population changes is compared.

Dudak, Daniel, George W. Cornwell, Rhodes B. Holliman, and Burd S. McGinnes. THE INCIDENCE AND DEGREE OF INFECTION OF PNEUMOSTRONGYLUS TENUIS IN THE WHITE-TAILED DEER OF WESTERN VIRGINIA. Proc. 19th Ann. Conf. SE Assoc. Game & Fish Comms. p. 128-141, 3 figs. 1965 [1966]. WR 134: 39

[Va. Polytech. Inst., Blacksburg.] Three-hundred and nine deer heads (230 does and 79 bucks) were examined for P. tenuis and 73% were infected. The majority of the worms (68%) were found on the dorsal surface of the brain. The range of infection was 1-13 worms. In addition, lung and fecal specimens were collected. Fifty per cent of the lung specimens were infected, but no larvae were found in the fecal material.--From abstr.

Ellisor, John E. MOBILITY OF WHITE-TAILED DEER IN SOUTH TEXAS. J. Wildl. Mgmt. 33(1): 220-222. Jan. 1969. WR 134: 39

[Texas Parks & Wildl. Dept., Alice.] Abstract: The movements of white-tailed deer in southern Texas were studied from 1962-1967. Sixty-two deer were live-trapped, individually marked, and their movements observed and plotted on aerial photomaps of the study area. The average observed maximum movement was 1.39 miles with 9 movements exceeding 2 miles.

Fowler, James F., John D. Newsom, and Henry L. Short. SEASONAL VARIATION IN FOOD CONSUMPTION AND WEIGHT GAIN IN MALE AND FEMALE WHITE-TAILED DEER. Proc. 21st Ann. Conf. SE Assoc. Game & Fish Comms. p. 24-32, 2 figs. 1967 [1968]. WR 134: 39

[La. State Univ., Baton Rouge.] Feeding trials, in which ten white-tailed deer fawns (five bucks and five does) were fed a balanced ration, were conducted over an 18-month period. The commercially available ration which contained not less than 13.0% protein or 2.0% crude fat and not more than 9.5% crude fiber or 4.8% minerals was fed ad libitum. Seasonal variation in food consumption and body weight of the experimental deer was statistically significant at the 1% level of probability. Sex by season interaction in food consumption was highly significant. Buck deer averaged 10% weight loss and doe deer averaged a 3% weight loss during the second winter of the study. Decrease in food consumption and corresponding weight loss during the winter seem to be associated with the physiological changes which occur in sexually mature white-tailed deer during the breeding period.--From abstr.

Glazener, W. C. AN UNUSUAL ANTLER-DROP SCHEDULE IN THE WHITE-TAILED DEER. J. Mammal. 50(1): 156. Feb. 1969. WR 134: 40
[Welder Wildl. Foundation, Sinton, Texas.] An example of a mid-June antler drop for three successive years in an adult male deer.

Harlow, Richard F. NATURAL FACTORS AFFECTING DEER MOVEMENT. Quart. J. Fla. Acad. Sci. 30(3): 221-226. 1967. [From Biol. Abstr. 50(3), 1969.] WR 134: 40
[SE Forest Expt. Sta., Asheville, N.C.]

Harlow, Richard F., and Robert L. Downing. EVALUATING THE DEER TRACK CENSUS METHOD USED IN THE SOUTHEAST. Proc. 21st Ann. Conf. SE Assoc. Game & Fish Comms. p. 39-41. 1967 [1968]. WR 134: 40
[SE Forest Expt. Sta., Asheville, N.C.] Before any reliance can be placed on the track count census method, enough counts will have to be taken to compensate for day-to-day variability. This may, in some instances, be more than is practical. However, when it is possible to take the required number of samples, the technique may: (1) Detect population changes if there are no distributional changes in the herd, and (2) demonstrate deer presence to the public. Track counting is a practical, though time-consuming, technique. Under ideal conditions, one man can count twenty 1-mile transects per day. Where populations are high, only a small number of daily counts may be needed.--From concl.

Hawkins, R. E., and G. G. Montgomery. MOVEMENTS OF TRANSLOCATED DEER AS DETERMINED BY TELEMETRY. J. Wildl. Mgmt. 33(1): 196-203, 2 figs. Jan. 1969. WR 134: 40
[Southern Ill. Univ., Carbondale.] Most deer translocated 25 or more miles to a suitable habitat tend to stay in the vicinity of the release site if possible. Deer seem to move out in all directions from the release site until an unoccupied habitat is found, but considerable searching in all directions is necessary when most available niches are taken. The distance they move from the release sites are influenced by the densities of the deer populations in the areas to which the deer are translocated. As indicated, doe fawns, first, and then does nearing parturition, seemed to be superior for transplanting.--From concl.

Hesselton, William T. DEER TRAPPING AND TAGGING. [N.Y.] Conservationist 23(4): 14-17, 8 figs. Feb.-Mar. 1969. WR 134: 40
[N.Y. State Conserv. Dept., Albany.] Deer tagged in an overpopulated wintering area were recovered south and west of the New York-Pennsylvania border. The mean recovery distance from original trip sites was slightly more than 6 miles for adult bucks and about 12 miles for fawn bucks while the distances traveled by does were intermediate to these figures.

Julander, Odell. HOW MULE DEER (ODOCOILEUS HEMIONUS HEMIONUS) USE MOUNTAIN RANGELAND IN UTAH. Utah Acad. Sci. Arts Letters Proc. 43(2): 22-28. 1966. [From Biol. Abstr. 49(6), 1968.] WR 134: 40
[Intermountain Forest Range Expt. Sta., Provo, Utah.]

Larsen, Parry A. LENS WEIGHT AS A CRITERION FOR AGING DESERT MULE DEER. M.S. thesis, N. Mex. State Univ. 1962. WR 134: 40
The age of each deer as indicated by tooth replacement and molar-ratio was used to place matching dried lens weights into age classes. Standard deviations for each age class were determined for all ages above fawn through 4.3 years, with some overlap occurring. Above 4.3 years, yearly age groups could not be distinguished on the basis of lens weight.--From abstr.

Legler, Eugene, Jr., and Don W. Hayne. SAMPLING TO DETERMINE UNREPORTED DEER KILL IN TENNESSEE, 1964-1966. Proc. 21st Ann. Conf. SE Assoc. Game & Fish Comms. p. 69-73. 1967 [1968]. WR 134: 41

[Tenn. Game & Fish Comm., Nashville.] Summary: Methods are described by which the unreported open deer kill in Tennessee has been estimated. A comparison of results from interview of non-respondents, and use of the computer extrapolation method devised by Overton failed to reveal important or consistent differences between the two methods.

Lewis, James C., and Larry E. Safley. A COMPARISON OF SOME DEER CENSUS METHODS IN TENNESSEE. Proc. 20th Ann. Conf. SE Assoc. Game & Fish Comms. p. 56-63, 1 fig. 1966 [1967]. WR 134: 41

[Tenn. Game & Fish Comm., Nashville.] Conclusions: Five deer census methods were compared on the Central Peninsula Wildlife Management Area. They indicated similar population trends and differed only in magnitude. The Lincoln Index and Percent Kill Methods provided the most reliable estimates. The Percent Kill Method is the easiest to calculate. The Lincoln Index requires the greatest effort in time and manpower but seems to be the most accurate at the present time. The Sex-age-kill Method will apparently give good herd estimates if the percent of non-hunting losses can be approximated and allowance made for other problems. This method shows promise of greater accuracy when existing biases and unknowns can be omitted. For the present time the Percent Kill Method seems to be the most practical for use on the typical management area in Tennessee.

Lueth, Francis X. INTERPRETATION OF SOME ALABAMA DEER TRAPPING DATA. Proc. 19th Ann. Conf. SE Assoc. Game & Fish Comms. p. 110-117. 1965 [1966]. WR 134: 41

[Ala. Dept. Conserv., Montgomery.] Trapping procedure and results, sex and age ratios and population estimates are discussed.

Lueth, Francis X. REPRODUCTIVE STUDIES OF SOME ALABAMA DEER HERDS. Proc. 21st Ann. Conf. SE Assoc. Game & Fish Comms. p. 62-68, 1 fig. 1967 [1968]. WR 134: 41

[Ala. Dept. Conserv., Montgomery.] Conclusion: There is considerable variation in the breeding dates between the various deer herds of the state. Breeding may start as early as November 10 in some herds while the earliest date in other herds is January 25. Breeding may terminate in some herds before January 15 or continue through late March in others. Conception dates may be influenced by some climatic or other unknown factor, but are probably determined most by the genetic stock. Production per adult doe varied from 1.1 or 1.2 in the Baldwin-Clarke County area to 2.0 at Barbour. For the most part, recently stocked or heavily harvested areas had the best production. No evidence of unusual sex ratios were found.

Marchinton, Robert L., and Lewis K. Jeter. TELEMETRIC STUDY OF DEER MOVEMENT-ECOLOGY IN THE SOUTHEAST. Proc. 20th Ann. Conf. SE Assoc. Game & Fish Comms. p. 189-206, 10 figs. 1966 [1967]. WR 134: 41

[Auburn Coop. Wildl. Res. Unit, Auburn, Ala.] Twenty-eight deer were instrumented with radio transmitters in four Florida and Alabama habitats. Telemetric contact varied from a few hours to more than four months. Minimum home ranges of seven of these deer in their natural habitats ranged from 147 to 243 acres. This relative uniformity occurred despite considerable variation in habitat characteristics. Similarities among the habitats that might account for this uniformity were noted. Minimum home range major axes ranged from 0.76 to 2.23 miles in length with most being just less than one mile. Diel movement patterns often involved feeding out into open range or near food plots at night and returning to the wooded areas during the day. Distances between extreme diel periods averaged 0.71 miles. Minimum total distances moved during diel periods averaged 1.55 miles. Some examples of variation in the movement patterns could be related to the sexual cycle in both male and female. Data on the home range and movements of adult bucks (more than two years old) were inconclusive.--From abstr.

Michael, E. D. DRINKING HABITS OF WHITE-TAILED DEER IN SOUTH TEXAS. Proc. 21st Ann. Conf. SE Assoc. Game & Fish Comms. p. 51-57, 3 figs. 1967 [1968]. WR 134: 42

[Stephen F. Austin State Coll., Nacogdoches, Texas.] Daily and seasonal variations in drinking habits of white-tailed deer (Odocoileus virginianus) were observed in the Coastal Bend area of Texas. The following inferences can be made from data collected: (1) Deer use any water available, but prefer that which is not within fenced enclosures. (2) Deer drink more often in hot seasons than in cold. (3) Peaks of drinking activity are at 7 a.m., 11 a.m., and 4-6 p.m. (4) Deer do not have a specific time of drinking in relation to feeding. (5) Some deer obtain water from leaves of vegetation. (6) Does with fawns are more wary than other deer. (7) Pregnant does drink more frequently than non-pregnant deer.--From abstr.

Murphy, Dean A. EFFECTS OF VARIOUS OPENING DAYS ON DEER HARVEST AND HUNTING PRESSURE. Proc. 19th Ann. Conf. SE Assoc. Game & Fish Comms. p. 141-146, 2 figs. 1965 [1966]. WR 134: 42

[Mo. Dept. Conserv., Columbia.] The weekend opening could be a useful tool to concentrate hunting pressure in areas where heavier harvest is needed or in areas where dense cover requires a concentration of hunters to move the deer. Opening the season on Friday results in two consecutive opening days with a subsequent increase in hunting pressure. We have some evidence that the weekend opening can also be detrimental. The concentration of hunters during the first 3 days of the past 2 seasons has apparently resulted in a reduction of the deer herd in some counties adjacent to metropolitan St. Louis. A Monday opening will spread the hunting pressure over a longer period of time and could be used in areas where maximum concentrations of hunters are not desired.--From discussion.

Murry, Robert E. TRANQUILIZING TECHNIQUES FOR CAPTURING DEER. Proc. 19th Ann. Conf. SE Assoc. Game & Fish Comms. p. 4-15, 10 figs. 1965 [1966]. WR 134: 42

Conclusion: Use of the drug Tranimul is superior to other deer capture methods in some situations. It works equally well with white-tailed deer, Sika deer or fallow deer. The presently used technique yields a good return of deer per effort expended.

Nellis, Carl H., and Robert L. Ross. CHANGES IN MULE DEER FOOD HABITS ASSOCIATED WITH HERD REDUCTION. J. Wildl. Mgmt. 33(1): 191-195. Jan. 1969. WR 134: 42

[Univ. Wis., Madison.] Abstract: Food habits of mule deer (Odocoileus hemionus) on the National Bison Range, Montana, were determined from 48 rumen samples taken from November, 1962 - January, 1964. Forbs and shrubs each accounted for a third of the total diet, grass for 21%, and conifers for 13%. These data are compared with similar information from 1952. A large increase in the use of shrubs and a smaller increase in conifer use occurred from 1952 to 1963. A compensatory decrease in use of grass in spring and winter, and of forbs in summer and fall occurred during this period. These changes in food habits were associated with a reduction in mule deer numbers by 1963 to about one-third of their 1952 level. Range condition declined from 1952 to 1963.

Palermo, Ray, and Louis Brunett. WILDLIFE MANAGEMENT HUNTS / 1968-1969. La. Conserv. 21(3-4): 14-17, illus. Mar.-Apr. 1969. WR 134: 42

Tabulated results of managed deer hunts for La. since 1955 are included. Results of individual managed deer hunts are compared for 1967 and 1968.

Payne, R. L., E. E. Provost, and D. F. Urbston. DELINEATION OF THE PERIOD OF RUT AND BREEDING SEASON OF A WHITE-TAILED DEER POPULATION. Proc. 20th Ann. Conf. SE Assoc. Game & Fish Comms. p. 130-139, 3 figs. 1966 [1967]. WR 134: 42

[Univ. Ga., Athens.] The period of rut was indicated to occur from early August through late February. The peak of rut occurred from mid September through November, and slightly preceded a peak of breeding activity the last

half of November through the first half of December. Onset of the period of rut apparently occurred well before the early extremity of breeding, and continued for approximately two months after adult breeding ceased.--From summ.

Roberson, John H., Jr., and Dan Dennett, Jr. BREEDING SEASON OF WHITE-TAILED DEER IN LOUISIANA. Proc. 20th Ann. Conf. SE Assoc. Game & Fish Comms. p. 123-130. 1966 [1967]. WR 134: 43

[La. Wild Life & Fisheries Comm., New Orleans.] Definite differences in time of breeding exist between some of the herds studied. Also, these data show results contrary to previous reports that white-tailed deer in southern latitudes breed later than those in northern latitudes. Some of the herds in this state breed earlier than herds in such northern states as New York. On a local basis, little difference can be found to substantiate such radical differences in breeding dates. Photoperiod does not seem to be a major factor, for only 12-15 minutes difference in day length occurs between northern and southern extremes. Furthermore, some of the southerly herds in the state breed earlier than the northern herds. Ecological factors offer no substantial reason either.--From discussion.

Rogers, Ken E., and Maurice F. Baker. MEASUREMENTS FOUND MOST USEFUL IN ESTIMATING ANTLER VOLUME. Proc. 19th Ann. Conf. SE Assoc. Game & Fish Comms. p. 118-128, 2 figs. 1965 [1966]. WR 134: 43

[Ala. Coop. Wildl. Res. Unit, Auburn.]

Short, Henry L. FORAGE ANALYSES FOR DEER MANAGEMENT STUDIES. Proc. 20th Ann. Conf. SE Assoc. Game & Fish Comms. p. 15-18. 1966 [1967]. WR 134: 43

[Southern Forest Expt. Sta., Nacogdoches, Texas.] The importance and usefulness of forage analyses are directly dependent on four collection criteria. One, the plant parts collected must rigorously duplicate food items ingested or the design of the research must allow for adequate sampling replication. Two, forage collections may have to be made at specific times of day, and rate of sampling throughout the year may vary between periods of rapid growth and development and those of plant dormancy. Three, collected plant material should be quickly processed to kill biological activity while minimizing chemical degradation of the sample. Four, careful consideration should be given initially to obtaining those measurements which best assess forage quality to the animal or which indicate desired criteria of habitat quality.--From summ.

Short, Henry L., Elmer E. Remmenga, and Charles E. Boyd. VARIATIONS IN RUMINORETICULAR CONTENTS OF WHITE-TAILED DEER. J. Wildl. Mgmt. 33(1): 187-191. Jan. 1969. WR 134: 43

[Southern Forest Expt. Sta., Nacogdoches, Texas.]

Stafford, Steven, C. T. Lee, and Lovett E. Williams, Jr. DRIVE-TRAPPING WHITE-TAILED DEER. Proc. 20th Ann. Conf. SE Assoc. Game & Fish Comms. p. 63-69, 2 figs. 1966 [1967]. WR 134: 43

[Fla. Game & Fresh Water Fish Comm., Gainesville.] Summary: A new method of trapping white-tailed deer employing cloth net drive-traps on planted food plots was developed. It is considered especially useful where deer eat planted crops in preference to artificial or cereal baits.

Stair, E. L., R. M. Robinson, and L. P. Jones. SPONTANEOUS BLUETONGUE IN TEXAS WHITE-TAILED DEER. Pathol. Vet. 5: 164-173, 4 figs. 1968. WR 134: 43

[Texas A&M Univ., College Station.] Summary: The clinical, gross, and microscopic findings of an outbreak of bluetongue (BT) in a herd of captive white-tailed deer are described. Serologic diagnosis of BT was accomplished by fluorescent antibody (FA) reaction in tissues from affected deer. The basic lesion was considered on the basis of histopathologic and FA findings to be a vasculitis. A possible relationship of BTV of deer and sheep to epizootic hemorrhagic disease of deer is discussed.

Thorsland, Oscar A. NUTRITIONAL ANALYSES OF SELECTED DEER FOODS IN SOUTH CAROLINA. Proc. 20th Ann. Conf. SE Assoc. Game & Fish Comms. p. 84-104, 10 figs. 1966 [1967]. WR 134: 44

[Clemson Univ., Clemson, S.C.] "The primary objective of the present investigation was to determine whether a sample collected during any given month of the year would be representative of the nutritional value of that species for the entire season. The secondary objective was to determine if the chemical composition of a specific plant would vary from area to area." Another objective was to compare the mineral contents of the plants with the available soil minerals.

Trout, Lester E. WHAT WOULD YOU EAT? Idaho Wildl. Rev. 21(4): 3-6, 6 figs. Jan.-Feb. 1969. WR 134: 44

[Idaho Fish & Game Dept., Boise.] By mid-February, an undernourished deer herd is eating mostly grass, with a much smaller percentage of preferred browse being consumed. Fawns appear to be hardest hit by food shortages.

Urbston, David F. HERD DYNAMICS OF A PIONEER-LIKE DEER POPULATION. Proc. 21st Ann. Conf. SE Assoc. Game & Fish Comms. p. 42-50, 2 figs. 1967 [1968]. WR 134: 44

[Savannah River Project, Aiken, S.C.] Two types of deer herds were described on the basis of age composition and declining herd thrift. A herd near the swamp was composed of a high portion of older animals and had poor reproduction and antler development. Herd dynamics in an area 2-5 miles further north were characterized by a young and thrifty population. The dynamics of deer obtained from an intermediate zone lying between these two extremes were also studied. Twelve animals per square mile were removed during 1965 and herd condition was considered as good. Data obtained from the area during 1966 indicate that herd conditions may have improved considerably.--From summ.

Weber, Andrew J., Frank B. Barick, and Jerry Wood. CALIBRATION OF DEER HUNTING EFFORT AND SUCCESS. Proc. 20th Ann. Conf. SE Assoc. Game & Fish Comms. p. 181-188, 5 figs. 1966 [1967]. WR 134: 44

[N.C. Wildl. Resources Comm., Raleigh.]

Welch, Bruce L. PROJECTED ASSESSMENT OF NEW PHYSIOLOGICAL INDICATORS OF POPULATION CONDITIONS IN DEER. Proc. 19th Ann. Conf. SE Assoc. Game & Fish Comms. p. 157-160. 1965 [1966]. WR 134: 44

[Coll. William & Mary, Williamsburg, Va.] The possibility of measuring the activity of certain liver enzymes which are specifically induced by adrenal hormones as indices of the level of secretion of these hormones from the adrenal into the bloodstream is suggested.

MAMMALS--MARINE

Cameron, Austin W. THE BEHAVIOR OF ADULT GRAY SEALS (HALICHOERUS GRYPUS) IN THE EARLY STAGES OF THE BREEDING SEASON. Canadian J. Zool. 47(2): 229-233. Mar. 1969. WR 134: 44

[McGill Univ., Montreal, Quebec, Canada.]

Cline, David R., Donald B. Siniff, and Albert W. Erickson. IMMOBILIZING AND COLLECTING BLOOD FROM ANTARCTIC SEALS. J. Wildl. Mgmt. 33(1): 138-144, 1 fig. Jan. 1969. WR 134: 44

[Univ. Minn., Minneapolis.] Abstract: The anesthetic phencyclidine hydrochloride (Sernylan, Park-Davis Co.) was used in combination with the tranquilizer promazine hydrochloride (Sparine, Wyeth Laboratories) to immobilize 54 Antarctic seals of three species. Automatic projectile syringes and an extension syringe-injection device were used to administer the drugs. The crabeater seal (Lobodon carcinophagus) required a greater working dose rate (1.00 mg/kg) than either the Weddell seal (Leptonychotes weddelli) (0.50 mg/kg) or the elephant seal (Mirounga leonina) (0.40 mg/kg). Individual reactions to

the drugs also varied greatly. The thoroughness of intramuscular injection was of critical importance to insure the shortest possible induction period culminating in complete immobilization. The methods of injection, species response to various dosages of the drugs, the blood-collecting technique, and recommended dose rates are described.

Freeman, Milton M. R. WINTER OBSERVATIONS ON BELUGA (DELPHINAPTERUS LEUCAS) IN JONES SOUND, N.W.T. Canadian Field-Nat. 82(4): 276-286, 3 figs. Oct.-Dec. 1968. WR 134: 45

[Memorial Univ. Newfoundland, St. John's, Newfoundland, Canada.] An estimated 150-200 whales were trapped by sea ice in Starnes Fiord from Nov. 1966-Apr. 1967. Stomachs of 46 whales killed by hunters were examined; over half were empty. Observations on leanness and swimming behavior indicated that the whales steadily weakened until the end of January, when about 20-30 whales still survived.

Gambell, Ray. SEASONAL CYCLES AND REPRODUCTION IN SEI WHALES OF THE SOUTHERN HEMISPHERE. Discovery Repts. (London) 35: 31-134. 1968. [From J. Mammal. 50 (1), 1969.] WR 134: 45

Lauer, B. H., and B. E. Baker. WHALE MILK. I. FIN WHALE (BALAENOPTERA PHYSALUS) AND BELUGA WHALE (DELPHINAPTERUS LEUCAS) MILK: GROSS COMPOSITION AND FATTY ACID CONSTITUTION. Canadian J. Zool. 47(1): 95-97. Jan. 1969. WR 134: 45

[McGill Univ., Macdonald College P.O., Quebec, Canada.]

Le Boeuf, Burney J., and Richard S. Peterson. SOCIAL STATUS AND MATING ACTIVITY IN ELEPHANT SEALS. Science 163(3862): 91-93, 1 fig. 3 Jan. 1969. WR 134: 45

[Crown Coll., Univ. Calif., Santa Cruz.] Abstract: Individually marked male elephant seals, Mirounga angustirostris, observed on an island off central California participate in a social hierarchy resembling the peck order of domestic chickens. Individuals achieve status by fighting and maintain it by stereotyped threat displays. The higher the status of a male, the more readily he approaches and copulates with females. Four percent of the males inseminated 85% of the females.

Lilly, John C., Alice M. Miller, and Henry M. Truby. REPROGRAMMING OF THE SONIC OUTPUT OF THE DOLPHIN: SONIC BURST COUNT MATCHING. J. Acoustical Soc. Am. 43(6): 1412-1424. June 1968. [From J. Mammal. 50(1), 1969.] WR 134: 45

Marlow, B. J. THE SEA-LIONS OF DANGEROUS REEF. Austral. Nat. Hist. 16(2): 39-44. June 1968. [From J. Mammal. 50(1), 1969.] WR 134: 45

Nishiwaki, Masaharu. DISTRIBUTION AND MIGRATION OF MARINE MAMMALS IN THE NORTH PACIFIC AREA. Bull. Ocean Res. Inst. Univ. Tokyo (Japan) 1. 64 p. Dec. 1967. [From J. Mammal. 50(1), 1969.] WR 134: 45

Olsen, C. Robert, Robert Elsner, Frank C. Hale, and David W. Kenney. "BLOW" OF THE PILOT WHALE. Science 163(3870): 953-955, 3 figs. 28 Feb. 1969. WR 134: 45

[Univ. Calif. School Med., Los Angeles.] Abstract: A captive pilot whale emptied as much as 88% of lung gas passively, without the aid of expiratory muscles. Level or decreasing pressures in the esophagus during expiration, and in the blowhole at the onset of expiration, revealed the driving force of expiration to be solely elastic recoil. Active muscular re-expansion of the lungs ensued immediately. Expiration and inspiration were completed in about 1 second.

Perrin, William F. THE BARNACLE, CONCHODERMA AURITUM, ON A PORPOISE (STENELLA GRAFFMANI). J. Mammal. 50(1): 149-151, 1 fig. Feb. 1969. WR 134: 46
[Fishery-Oceanography Center, La Jolla, Calif.] More than twenty barnacles attached to teeth of porpoise.

Piérard, Jean. LE LARYNX DU PHOQUE DE WEDDELL (LEPTONYCHOTES WEDDELLI, LESSON, 1826). [THE LARYNX OF THE WEDDELL SEAL (LEPTONYCHOTES WEDDELLI, LESSON, 1826).] Canadian J. Zool. 47(1): 77-87, 5 figs. Jan. 1969. In French with English summ. WR 134: 46
[École Méd. Vét., St. Hyacinthe, Québec, Canada.]

Pilleri, G., and J. Knuckey. THE DISTRIBUTION, NAVIGATION AND ORIENTATION BY THE SUN OF DELPHINUS DELPHIS L. IN THE WESTERN MEDITERRANEAN. Experientia (Basel) 24(4): 394-396. 15 Apr. 1968. [From J. Mammal. 50(1), 1969.] WR 134: 46

Scheffer, Victor B. MARKS ON THE SKIN OF A KILLER WHALE. J. Mammal. 50(1): 151, 1 fig. Feb. 1969. WR 134: 46
[Marine Mammal Biol. Lab., Seattle, Wash.] Presumably scars from teeth of another Orcinus orca.

Stirling, Ian. DIURNAL MOVEMENTS OF THE NEW ZEALAND FUR SEAL AT KAIKOURA. New Zealand J. Marine Freshwater Res. 2(2): 375-377. June 1968. [From J. Mammal. 50(1), 1969.] WR 134: 46

Stirling, Ian. BIRTH OF A WEDDELL SEAL PUP. J. Mammal. 50(1): 155-156. Feb. 1969. WR 134: 46
[Canterbury Univ., Christchurch, New Zealand.] "Leptonychotes weddelli."

MAMMALS--OTHER GROUPS

Francq, Edward N. BEHAVIORAL ASPECTS OF FEIGNED DEATH IN THE OPOSSUM DIDELPHIS MARSUPIALIS. Am. Midland Nat. 81(2): 556-568, 1 fig. Apr. 1969. WR 134: 46
[Univ. N.H., Durham.]

Godfrey, Gillian K. (=Mrs. Peter Crowcroft). THE INFLUENCE OF INCREASED PHOTOPERIOD ON REPRODUCTION IN THE DASYURID MARSUPIAL,SMITHOPSIS CRASSICAUDATA. J. Mammal. 50(1): 132-133, 1 fig. Feb. 1969. WR 134: 46
[Univ. Adelaide, Adelaide, Australia.]

Krumrey, William A., and Irven O. Buss. OBSERVATIONS ON THE ADRENAL GLAND OF THE AFRICAN ELEPHANT. J. Mammal. 50(1): 90-101, 7 figs. Feb. 1969. WR 134: 46
[Southern Ill. Univ., Carbondale.]

Packer, Wayne C. OBSERVATIONS ON THE BEHAVIOR OF THE MARSUPIAL SETONIX BRACHYURUS (QUOY AND GAIMARD) IN AN ENCLOSURE. J. Mammal. 50(1): 8-20, 3 figs. Feb. 1969. WR 134: 46
[Univ. Western Australia, Nedlands, Australia.]

BIRDS--GENERAL

Rucner, Renata, editor. LARUS / ANNUAL OF THE DEPARTMENT OF ORNITHOLOGY, INSTITUTE OF BIOLOGY, ZAGREB UNIVERSITY / XVI-XVIII / 1962-1964. Translated and published for the Smithsonian Institution and the National Science Foundation, Washington, D.C., by the NOLIT Publishing House (Belgrade, Yugoslavia). TT 67-58044. 256 p. 1968. Serbo-Croatian original from Larus, Volume 16-18, 1962-1964. [Translation available from U.S. Dept. Commerce, Clearinghouse for Federal Scientific and Technical Information, Springfield, Va.] WR 134: 46
Includes: Bird banding in 1961 and 1962..., The significance of the avifauna in relict pine forests of Mala Kapela and its relationship to avifaunas

in other tree associations of this vegetation zone, The relationship between the Mediterranean vegetation and Mediterranean elements of the avifauna of the Balkan Peninsula, The birds of the island of Vis and of the neighboring islets, Interesting reactions of birds when caught for banding, The biologico-economic significance of rooks (Corvus frugilegus L.) for agriculture in the area of eastern Slavonia, and several short notes.

BIRDS--TECHNIQUES

Bremond, J.-C., Ph. Gramet, T. Brough, and E. N. Wright. A COMPARISON OF SOME BROADCASTING EQUIPMENTS AND RECORDED DISTRESS CALLS FOR SCARING BIRDS. J. Appl. Ecol. 5(3): 521-529 + 2 pls. Dec. 1968. WR 134: 47
[INRA, Jouy-en-Josas (S.-et-O.), France.] Distress calls to gulls and corvids were tested. Best response is elicited when broadcasts are made with both a high fidelity apparatus and a biologically effective call.

Burtt, Harold E., and Maurice L. Giltz. A METHOD FOR PRESENTING RECOVERY DATA WITH LARGE SAMPLES. Inland Bird Banding News 41(1): 13-16, 3 figs. Jan.-Feb. 1969. WR 134: 47
[Ohio State Univ., Columbus.] The number of local recoveries is indicated by a circle of proportionate radius; vector lines are drawn in each 20° sector to represent total mileage of recoveries in that sector.--Courtesy/ Paul A. Stewart.

Dill, Herbert H. A FIELD GUIDE TO CANNON NET TRAPPING. Bur. Sport Fisheries & Wildl. 18 p. + [24] figs. + 3 single-fold diagrams. Feb. 1969. WR 134: 47
[Div. Wildl. Refuges, Minneapolis, Minn.] Instructions for site selection, operation, and maintenance of cannon nets.

Dustan, Thomas C. A CAMERA RESEARCH APPARATUS FOR INVESTIGATING NESTS OF CAVITY OR CANOPY NESTING BIRDS. Loon 40(4): 115-117, 6 figs. Dec. 1968. WR 134: 47
[Univ. S. Dak., Vermillion.]

Hendrick, Donald J. THE EFFECT OF COLOR ON THE TEMPERATURE OF BIRD BOXES. Passenger Pigeon 30(4): 164-167, 1 fig. Winter 1968. WR 134: 47
[Tomahawk, Wis.] "Boxes" were number 10 tin cans painted in varying shades from white to black. Temperature readings inside the boxes did not exceed 100° during early stages of nestling development.

Ludwig, F. E. EASY MADE-PORTABLE NET POLES. Inland Bird Banding News 40 (4): 142-143, 5 figs. July-Aug. 1968. WR 134: 47
[916 Seventh St., Port Huron, Mich.] Made from one-half inch galvanized conduit.--Courtesy/ Paul A. Stewart.

Reisinger, Joseph H. BIRD BAGS AND MIST NET BAGS. Inland Bird Banding News 40(6): 204-205, 1 fig. Nov.-Dec. 1968. WR 134: 47
[849 Tatum St., St. Paul, Minn.] Directions for making holding bags for birds and storage bags for mist nets.--Courtesy/ Paul A. Stewart.

Wiseman, Arthur J. A SIMPLE "LOCKING MECHANISM" FOR WIRE MESH TRAPS. Inland Bird Banding News 40(4): 139-141, 3 figs. July-Aug. 1968. WR 134: 47
[2073 Harrison Ave., Cincinnati, Ohio.] For vertical door-drop traps.--Courtesy/ Paul A. Stewart.

Wiseman, Arthur J. AGEING CARDINALS BY JUVENAL SECONDARIES AND SECONDARY COVERTS. Inland Bird Banding News 40(5): 172-173. Sept.-Oct. 1968. WR 134: 47
[2073 Harrison Ave., Cincinnati, Ohio.] Courtesy/ Paul A. Stewart.

Zeleny, Lawrence. BLUEBIRD NESTING BOX TEMPERATURES. Atlantic Nat. 23(4): 214-218. Winter 1968. WR 134: 48

Nesting boxes of three-fourths inch pine were cooler than boxes made of thinner materials. The temperature rise in dark-colored boxes was more than twice that in light-colored boxes.

BIRDS--MORPHOLOGY & PHYSIOLOGY

Boyd, John C., William J. L. Sladen, and Howard A. Baldwin. BIOTELEMETRY OF PENGUIN BODY TEMPERATURES, 1966-1967. Antarctic J. U.S. 2(4): 97-99, 1 fig. July-Aug. 1967. WR 134: 48

[Johns Hopkins Univ., Baltimore, Md.] A significant difference was noted between the mean body temperature of a bird incubating during the longest fasting period at the beginning of the season (38.0°C) and that of an incubating bird two days after its return from the sea at egg-hatching time (39.6°C).

Davis, Russell E. FEEDING EXPERIMENT WITH BLACK CAPPED CHICKADEES. Inland Bird Banding News 40(4): 136-137. July-Aug. 1968. WR 134: 48

[Clayton, Ill.] Records were kept of weight loss or gain, droppings, and amount of food eaten during hourly intervals. One group of 3 birds ate one-twelfth their own weight in one hour.--Courtesy/ Paul A. Stewart.

Dawson, William R., and Charles D. Fisher. RESPONSES TO TEMPERATURE BY THE SPOTTED NIGHTJAR (EUROSTOPODUS GUTTATUS). Condor 71(1): 49-53, 4 figs. Jan. 1969. WR 134: 48

[Univ. Mich., Ann Arbor.] The spotted nightjar has superior powers of heat defense which depend on an extensive capacity for evaporative cooling by gular fluttering and by having a relatively low level of metabolism. Body temperature is rather labile at moderate ambient temperatures, and a capacity for dormancy is indicated.--From summ. Courtesy/ Paul A. Stewart.

Gaunt, Abbot S. MYOLOGY OF THE LEG IN SWALLOWS. Auk 86(1): 41-53, 1 fig. Jan. 1969. WR 134: 48

[State Univ. N.Y., Buffalo.] Courtesy/ Paul A. Stewart.

Kendeigh, S. Charles. TOLERANCE OF COLD AND BERGMANN'S RULE. Auk 86(1): 13-25, 2 figs. Jan. 1969. WR 134: 48

[Univ. Ill., Champaign.] Non-passerines are affected by cold more than passerines, small species more than large species, and southern species more than northern species. Northern species also have greater feather insulation and greater capacities for higher rates of metabolism than southern species.--Courtesy/ Paul A. Stewart.

Lustick, Sheldon. BIRD ENERGETICS: EFFECTS OF ARTIFICIAL RADIATION. Science 163(3865): 387-390, 3 figs. 24 Jan. 1969. WR 134: 48

[Ohio State Univ., Columbus.] Abstract: Radiant energy reduces oxygen consumption in birds; this reduction is correlated with feather color, being greater in dark birds (26% reduction) than in white ones (6% reduction). With radiant energy (basking), the cowbird effectively increased its insulation, thus shifting the lower end of the zone of thermal neutrality down by as much as 10°C (35° to 25°C).

Minock, Michael E. SALINITY TOLERANCE AND DISCRIMINATION IN HOUSE SPARROWS (PASSER DOMESTICUS). Condor 71(1): 79-80. Jan. 1969. WR 134: 48

[Utah State Univ., Logan.] House sparrows were able to discriminate NaCl solutions of different concentrations, selecting concentrations that minimized physiological stress.--Courtesy/ Paul A. Stewart.

Spellerberg, Ian F. INCUBATION TEMPERATURES AND THERMOREGULATION IN THE McCORMICK SKUA. Condor 71(1): 59-67, 6 figs. Jan. 1969. WR 134: 49
[La Tobe Univ., Bundoora, Victoria, Australia.] Adult body temperatures, blood sugar, reactions of adults subjected to high ambient temperatures, incubation temperatures, and body temperatures of chicks are discussed.--Courtesy/ Paul A. Stewart.

West, George C., and Martha S. Meng. SEASONAL CHANGES IN BODY WEIGHT AND FAT AND THE RELATION OF FATTY ACID COMPOSITION TO DIET IN THE WILLOW PTARMIGAN. Wilson Bull. 80(4): 426-441, 9 figs. Dec. 1968. WR 134: 49
[Univ. Alaska, College.] Body weights of adult willow ptarmigan (Lagopus lagopus) were highest in fall and spring and lowest in summer. Juveniles reach their maximum weights in fall and decline in weight through winter and spring. Ether extractable lipids varied with body weights, except that there was an increase in lipids during January not related to body weights. Linoleic was the predominant fatty acid. Diet and bird fatty acids are generally similar, but certain long chain fatty acids in the diet are either not utilized or are converted to other forms.--From summ. Courtesy/ Paul A. Stewart.

BIRDS--BEHAVIOR

Blackburn, A. FEEDING STATIONS AND FOOD OF THE NORTH ISLAND SADDLEBACK IN NOVEMBER. Notornis 14: 67-70. 1967. [From Auk 86(1), 1969.] WR 134: 49

Brackbill, Hervey. TWO MALE HOUSE SPARROWS COPULATING ON GROUND WITH SAME FEMALE. Auk 86(1): 146. Jan. 1969. WR 134: 49
[2620 Poplar Drive, Baltimore, Md.] Courtesy/ Paul A. Stewart.

Burrows, W. M. OBSERVATIONS OF THE NESTING ASSOCIATION OF THE COMMON STARLING AND HOUSE SPARROW. Notornis 15: 31-33. 1968. [From Auk 86(1), 1969.] WR 134: 49
"Sturnus vulgaris and Passer domesticus."

Clark, George A., Jr. SPREAD-WING POSTURES IN PELECANIFORMES, CICONIIFORMES, AND FALCONIFORMES. Auk 86(1): 136-139, 1 fig. Jan. 1969. WR 134: 49
[Univ. Conn., Storrs.] A systematic survey of the spread-wing postures with some discussion on their function and evolution.--Courtesy/ Paul A. Stewart.

Darko, Gec. KONCENTRACIJA I PONAŠANJE PTICA U VREME SEOBE NA PODRUČJU KOPAČEVSKOG RITA. [CONCENTRATION AND BEHAVIOUR OF THE BIRDS DURING THEIR MIGRATION IN THE AREA OF THE MOOR OF KOPAČEVO.] Jelen 7: 105-112, 3 figs. 1968. In Serbo-Croatian with Russian and English summ. WR 134: 49

Delius, Juan D. A STOCHASTIC ANALYSIS OF THE MAINTENANCE BEHAVIOUR OF SKYLARKS. Behaviour 33(1-2): 137-178, 24 figs. 1969. In English with German summ. WR 134: 49
[UCSD, La Jolla, Calif.]

DeVore, Jon E. DECEMBER NESTING OF THE CAROLINA WREN. Migrant 39(3): 62. Sept. 1968. WR 134: 49
[4922 Sarasota Drive, Hixson, Tenn.]

Dinsmore, James J. DUAL CALLING BY BIRDS OF PARADISE. Auk 86(1): 139-140. Jan. 1969. WR 134: 49
[Univ. Fla., Gainesville.] Synchronized singing by males of Paradisaea apoda is discussed.--Courtesy/ Paul A. Stewart.

Dow, Douglas D. ALLOPREENING INVITATION DISPLAY OF A BROWN-HEADED COWBIRD TO CARDINALS UNDER NATURAL CONDITIONS. Wilson Bull. 80(4): 494-495. Dec. 1968. WR 134: 49
[Univ. Western Ontario, London, Ontario, Canada.] "Molothrus ater and Richmondena cardinalis."

Eaglesfield, C. F. NESTING BEHAVIOR OF THE CHESTNUT-AND-BLACK WEAVER. Auk 86(1): 127-129, 1 fig. Jan. 1969. WR 134: 50
[Hannibal-LaGrange Coll., Hannibal, Mo.] "Ploceus nigerrimus."--Courtesy/ Paul A. Stewart.

Fisk, Erma J. APPARENT RECOGNITION OF DANGER BY EVENING GROSBEAKS. Kingbird 18(4): 200-201. Oct. 1968. WR 134: 50
[Covewood Lodge, Big Moose, N.Y.] Two adult male Hesperiphona vespertina avoided the feeder after having been captured in a 2-cell Potter trap, although they continued to feed on the ground.

George, William G. THE ASSOCIATION OF INVADING WHITE-WINGED CROSSBILLS WITH A SOUTHERN TREE. Wilson Bull. 80(4): 496-497. Dec. 1968. WR 134: 50
[Southern Ill. Univ., Carbondale.] The distribution of invading white-winged crossbills (Loxia leucoptera) may be influenced by the distribution of sweet gum (Liquidambar styraciflua).--Courtesy/ Paul A. Stewart.

Grant, P. R. COLONIZATION OF ISLANDS BY ECOLOGICALLY DISSIMILAR SPECIES OF BIRDS. Canadian J. Zool. 47(1): 41-43. Jan. 1969. WR 134: 50
[McGill Univ., Montreal, Quebec, Canada.] Abstract: A large difference in bill length, and presumably feeding ecology as well, characterizes sympatric congeneric species of birds on islands of the West Indies. This is attributable more to a large initial difference between the colonists than to divergence in the island environment.

Leck, Charles F., and Steven Hilty. A FEEDING CONGREGATION OF LOCAL AND MIGRATORY BIRDS IN THE MOUNTAINS OF PANAMÁ. Bird-Banding 39(4): 318. Oct. 1968. WR 134: 50
[Cornell Univ., Ithaca, N.Y.] Seventeen species were netted from an area that had many Leandra subseriata shrubs in fruit.--Courtesy/ Paul A. Stewart.

Lemon, Robert E. THE RELATION BETWEEN ORGANIZATION AND FUNCTION OF SONG IN CARDINALS. Behaviour 32(1-3): 158-178, 4 figs. 1968. In English with French summ. WR 134: 50
[McGill Univ., Montreal, Quebec, Canada.]

Lemon, Robert E., and Andrew Herzog. THE VOCAL BEHAVIOR OF CARDINALS AND PYRRHULOXIAS IN TEXAS. Condor 71(1): 1-15, 7 figs. Jan. 1969. WR 134: 50
[McGill Univ., Montreal, Quebec, Canada.] The songs and calls of cardinals (Richmondena cardinalis) and pyrrhuloxias (Pyrrhuloxia sinuata) from two localities in Texas are described and compared. Despite similarities in the contact calls of both species, cardinals respond most to recordings of their own song types rather than to those of pyrrhuloxias.--From summ. Courtesy/ Paul A. Stewart.

Ricklefs, Robert E., and F. Reed Hainsworth. TEMPERATURE REGULATION IN NESTLING CACTUS WRENS: THE NEST ENVIRONMENT. Condor 71(1): 32-37, 6 figs. Jan. 1969. WR 134: 50
[Univ. Pa., Philadelphia.] The enclosed nest of the cactus wren aids temperature regulation during cold weather by retaining heat within the insulated nest cavity. During hot weather the nest protects the young from the direct rays of the sun but also impedes dissipation of heat produced by the nestlings. This may be partly compensated by evaporation of water from fecal material within the nest cavity. Nest entrances are oriented to avoid winds during the cooler part of the breeding season and to face them during the hot part.--From summ. Courtesy/ Paul A. Stewart.

Root, Richard B. INTERSPECIFIC TERRITORIALITY BETWEEN BEWICK'S AND HOUSE WRENS. Auk 86(1): 125-127. Jan. 1969. WR 134: 50
[Cornell Univ., Ithaca, N.Y.] After house wrens (Troglodytes aedon) migrated southward Bewick's wrens (Thryomanes bewickii) moved in and remained through the winter and into the following spring, starting their nest-building. When the house wrens returned, they displaced the Bewick's wrens which moved into nearby habitats. Bewick's wren populations were not displaced when house wren populations were low.--Courtesy/ Paul A. Stewart.

Sheppard, David H., Peter H. Klopfer, and Hans Oelke. HABITAT SELECTION: DIFFERENCES IN STEREOTYPY BETWEEN INSULAR AND CONTINENTAL BIRDS. Wilson Bull. 80(4): 452-457. Dec. 1968. WR 134: 51

[Duke Univ., Durham, N.C.] Catbirds (Dumetella carolinensis) and cardinals (Richmondena cardinalis) on the Bermuda Islands were less stereotyped in their feeding activities than North Carolina birds. Bermuda catbirds were also less stereotyped than North Carolina catbirds in their artificial foliage preferences.--From summ. Courtesy/ Paul A. Stewart.

Stallcup, Patrick L. HAIRY WOODPECKERS FEEDING ON PINE SEEDS. Auk 86(1): 134-135, 1 fig. Jan. 1969. WR 134: 51

[Lewis & Clark Coll., Portland, Oreg.] About two-thirds of the feeding time of Dendrocopus villosus was devoted to feeding on pine seeds.--Courtesy/ Paul A. Stewart.

Suthers, Hannah B. NOTES ON THE SINGING BEHAVIOR OF TWO BAND-WINGED NIGHTJARS. Inland Bird Banding News 41(1): 28-31, 1 fig. Jan.-Feb. 1969. WR 134: 51

[53 East Broad St., Hopewell, N.J.] Band-winged nightjars (Caprimulgus longirostris) in Brazil sing throughout the year. Singing starts at sunset and stops before sunrise. Activity is relatively high during full moon and reduced during precipitation.--Courtesy/ Paul A. Stewart.

Turček, F. J. ÜBER DAS WIEDERAUFFIDEN VON IM BODEN VERSTECKTEN SAMEN DURCH TANNEN- UND EICHELHÄHER. [ON THE RECOVERY OF BURIED NUTS BY NUCIFRAGA CARYOCATACTES AND GARRULUS GLANDARIUS.] Waldhygiene 6: 215-217. 1966. [From Auk 86(1), 1969. In German.] WR 134: 51

Nucifraga caryocatactes and Garrulus glandarius bury groups of two to five or more seeds of oak, beech, and mountain-pine from late August to October. During late autumn and winter the stores are rediscovered by trial and error. In late spring and in summer they are located by sighting the cotyledons and leaves. Only a part of the stores are rediscovered, but sylviculturists do not utilize the saplings of animal origin.

Wirkus, August F. BEHAVIORAL FACTORS AFFECTING TREE SPARROW WINTER SURVIVAL. Inland Bird Banding News 41(1): 17-20, 1 fig. Jan.-Feb. 1969. WR 134: 51

[178 Hale St., Elmhurst, Ill.] No individual Spizella arborea of a captive group of 8 males and 4 females was completely dominant.--Courtesy/ Paul A. Stewart.

Zusi, Richard L. "PLOUGHING" FOR FISH BY THE GREATER YELLOWLEGS. Wilson Bull. 80(4): 491-492, 1 fig. Dec. 1968. WR 134: 51

[U.S. Natl. Museum, Washington, D.C.] Totanus melanoleucus ran through shallow water skimming the water surface with their lower mandibles. One bird caught a small fish while ploughing.--Courtesy/ Paul A. Stewart.

BIRDS--MIGRATION & BANDING REPORTS

Bruderer, Bruno. WITTERUNGS-ABHÄNGIGKEIT DES HERBSTZUGES IM JURA. [INFLUENCE OF WEATHER ON AUTUMN MIGRATION IN THE JURA.] Ornithol. Beobachter 64 (2/3): 57-90. 1967. [From Bird-Banding 39(4), 1968. In German with English summ.] WR 134: 51

Clancey, P. A. SEASONAL MOVEMENT AND VARIATION IN THE SOUTHERN POPULATIONS OF THE DUSKY LARK PINAROCORYS NIGRICANS (SUNDEVALL). Bull. British Ornithol. Club 88(9): 166-171, 2 figs. Dec. 1968. WR 134: 51

"Pinarocorys n. nigricans and P. n. occidentis."

Gibson, J. D. THE WANDERING ALBATROSS (DIOMEDEA EXULANS): RESULTS OF BANDING AND OBSERVATIONS IN NEW SOUTH WALES COASTAL WATERS AND THE TASMAN SEA. Notornis 14: 47-57. 1967. [From Auk 86(1), 1969.] WR 134: 51

Hussell, D. J. T. WEIGHT LOSS OF BIRDS DURING NOCTURNAL MIGRATION. Auk 86 (1): 75-83, 2 figs. Jan. 1969. WR 134: 52
[Univ. Mich., Ann Arbor.] Eighty veeries (Hylocichla fuscescens) lost weight at a rate of 0.41 g/hr (1.3%), and 96 ovenbirds (Seiurus aurocapillus) lost weight at a rate of 0.20 g/hr (1.0%). Thus, flight metabolism was estimated at 0.12 kcal/(g·hr) for the veery and 0.10 kcal/(g·hr) for the ovenbird.--From summ. Courtesy/ Paul A. Stewart.

Johnston, David W., and Audrey C. Downer. MIGRATORY FEATURES OF THE INDIGO BUNTING IN JAMAICA AND FLORIDA. Bird-Banding 39(4): 277-293, 3 figs. Oct. 1968. WR 134: 52
[Univ. Fla., Gainesville.] Population movements, returns of banded birds, weight changes, and molt of Passerina cyanea.--From summ. Courtesy/ Paul A. Stewart.

Nord, L. [THE ACTIVITIES AT HARTSÖ-ENSKÄR BIRD STATION 1965-1967. REPORT NO. 1.] Vår Fågelvärld 27: 52-61. 1968. [From Auk 86(1), 1969. In Swedish with English summ.] WR 134: 52
A new station in the east coast archipelago of central Sweden. Total birds banded: 7,363; recoveries: 27.

Olrog, C. C. EL ANILLADO DE AVES EN LA ARGENTINA, 1964-66. QUINTO INFORME. [BANDING IN ARGENTINA, 1964-66. FIFTH REPORT.] Neotropica 14: 17-22. 1968. [From Auk 86(1), 1969. In Spanish with English summ.] WR 134: 52

Sladen, W. J. L., R. C. Wood, and E. P. Monaghan. THE USARP BIRD BANDING PROGRAM, 1958-1965. Antarctic Res. Ser. 12: 213-262, 12 figs. 1968. WR 134: 52
[Johns Hopkins Univ., Baltimore, Md.] Recoveries of almost 100,000 birds of 35 spp. banded at Antarctic stations since 1958. With 34 pages of tables. [United States Antarctic Research Program.]

Sloan, Norman F. BANDING PROJECT--BROWN-HEADED COWBIRD. Inland Bird Banding News 40(5): 170-171. Sept.-Oct. 1968. WR 134: 52
[Mich. Technol. Univ., Houghton.] The majority of recoveries came from the original banding location, after an average interval of 365.5 days.--Courtesy/ Paul A. Stewart.

Spencer, Robert. REPORT ON BIRD-RINGING FOR 1967. British Birds 61(11): 477-523, 6 maps. Nov. 1968. WR 134: 52
The 31st report of the Ringing and Migration Committee, British Trust for Ornithology. Includes a selected list of recoveries for 130 spp., and three tables with total numbers of birds banded and recovered, species of which more than 100 have been banded, and species of which fewer than 100 have been banded.

BIRDS--MANUALS, FAUNAS, COMMUNITIES

Benson, C. W., and M. P. S. Irwin. A CONTRIBUTION TO THE ORNITHOLOGY OF ZAMBIA. Zambia Museum Pap. no. 1. 139 p. 1967. [From Auk 86(1), 1969.] WR 134: 52
Detailed notes on range and taxonomy of some 240 spp. of Zambian birds, preparatory to the publication of the "Birds of Zambia." Zambia has now been well enough collected so that the apparent gaps in the ranges of many species may be assumed to be real.

Blackburn, A. A BRIEF SURVEY OF CUVIER ISLAND. Notornis 14: 3-8. 1967. [From Auk 86(1), 1969.] WR 134: 52
Annotated list of 32 bird species.

Dement'ev, G. P., N. A. Gladkov, and others. BIRDS OF THE SOVIET UNION. VOLUME II. Published for the Smithsonian Institution and the National Science Foundation, Washington, D.C., by the Israel Program for Scientific Translations (Jerusalem). TT 65-50021. xi + 553 p., 93 figs. 1968. Russian original published by Gosudarstvennoe Izdat. "Sovetskaya Nauka" (Moscow) in 1951. [Translation available from U.S. Dept. Commerce, Clearinghouse for Federal Scientific and Technical Information, Springfield, Va.] WR 134: 53

Species accounts of Columbiformes, Pterocletiformes, Turniciformes, Gruiformes, Otidiformes, Alciformes, Gaviiformes, Colymbiformes, Procellariformes, Phoenicopteriformes, and Ciconiiformes. [See WR 127: 48, WR 128: 40, and WR 131: 81 for other volumes in the series.]

Dement'ev, G. P., N. A. Gladkov, and others. BIRDS OF THE SOVIET UNION. VOLUME III. Published for the Smithsonian Institution and the National Science Foundation, Washington, D.C., by the Israel Program for Scientific Translations (Jerusalem). TT 64-11107. xi + 756 p., 169 figs., 118 maps, 4 pls. 1969. Russian original published by Gosudarstvennoe Izdat. "Sovetskaya Nauka" (Moscow) in 1951. [Translation available from U.S. Dept. Commerce, Clearinghouse for Federal Scientific and Technical Information, Springfield, Va.] WR 134: 53

Species accounts of Charadriiformes, Lariformes and Ralliformes.

Eisenmann, E., and H. Loftin. BIRDS OF THE PANAMA CANAL ZONE AREA. Fla. Naturalist 41: 57-60, 95. 1968. [From Auk 86(1), 1969.] WR 134: 53

A list of more than 500 spp.

Höhn, E. Otto. THE BIRDS OF THE CHESTERFIELD INLET, DISTRICT OF KEEWATIN, N.W.T., CANADA. Canadian Field-Nat. 82(4): 244-262, 6 figs. Oct.-Dec. 1968. WR 134: 53

[Univ. Alberta, Edmonton, Alberta, Canada.] Annotated systematic list of 58 spp.

Lavery, H. J. MAMMALS AND BIRDS OF THE TOWNSVILLE DISTRICT, NORTH QUEENSLAND. 2. BIRDS. Queensland J. Agr. & Animal Sci. 25: 243-254. 1968. WR 134: 53

[Animal Health Sta., Oonoonba, Townsville, Australia.] Annotated list of 229 spp.

Ligon, J. D., and R. P. Balda. RECENT DATA ON SUMMER BIRDS OF THE CHIRICAHUA MOUNTAINS AREA, SOUTHEASTERN ARIZONA. Trans. San Diego Soc. Nat. Hist. 15: 41-50. 1968. [From Auk 86(1), 1969.] WR 134: 53

An annotated list of 167 spp.

Niles, D. M. OBSERVATIONS ON THE SUMMER BIRDS OF THE ANIMAS MOUNTAINS, NEW MEXICO. N. Mex. Ornithol. Soc. Publ. no. 2. 23 p. 1966. Price 75¢. [From Auk 86(1), 1969.] WR 134: 53

Annotated list of 85 bird species.

Rohwer, Sievert A., and Glen E. Woolfenden. BREEDING BIRDS OF TWO FLORIDA WOODLANDS: COMPARISONS WITH AREAS NORTH OF FLORIDA. Condor 71(1): 38-48. Jan. 1969. WR 134: 53

[Univ. Kans., Lawrence.] Comparisons of bird censuses from the Gulf coast of Fla. with censuses of birds in similar habitats in Ala., Ga., and S.C. showed fewer birds of fewer species in Fla. than in the other states. Theories on the reasons for the differences are discussed.--Courtesy/ Paul A. Stewart.

Warham, J. SNARES ISLAND BIRDS. Notornis 14: 122-139. 1967. [From Auk 86 (1), 1969.] WR 134: 53

Annotated list of 37 spp.

Woolfenden, Glen E., and Sievert A. Rohwer. BREEDING BIRDS IN A FLORIDA SUBURB. Bull. Fla. State Museum Biol. Sci. 13(1): 1-83, 10 figs. 10 Feb. 1969. Price $1.20. WR 134: 54

[Univ. South Fla., Tampa.] A study of bird populations in the residential suburbs of St. Petersburg and Gulfport, Pinellas County, Fla., based on observations made in 3 study plots totalling 100.5 acres during 1963 and 1964.--From synopsis.

BIRDS--POPULATIONS & FLUCTUATIONS

Belknap, John B. A WINTER POPULATION BIRD STUDY--14 YEAR SUMMARY. Kingbird 19(1): 11-13, 1 fig. Jan. 1969. WR 134: 54

[92 Clinton St., Gouverneur, N.Y.] Average densities and number of species are graphed for the 14-year period.

Dexter, Ralph W. INCURSIONS OF THE EVENING GROSBEAK IN NORTHEASTERN OHIO, 1860-1967. Bird-Banding 39(4): 306-309, 1 fig. Oct. 1968. WR 134: 54

[Kent State Univ., Kent, Ohio.] During the 108-year period, the grosbeak was reported in 34 winters. The greatest abundance and the greatest number of locality records have occurred approximately every other year in recent years.--Courtesy/ Paul A. Stewart.

Dow, Douglas D. HOME RANGE AND HABITAT OF THE CARDINAL IN PERIPHERAL AND CENTRAL POPULATIONS. Canadian J. Zool. 47(1): 103-114, 8 figs. Jan. 1969. WR 134: 54

[Univ. Queensland, St. Lucia, Brisbane, Australia.] Population density in Tennessee was 0.74 males per hectare (30 per 100 acres), and in Ontario was 0.012 per hectare (0.48 per 100 acres). In Tennessee, cardinals occupied every available type of cover, suggesting plasticity of response to habitat; in Ontario, they were most common in the most abundant cover, suggesting little or no selection.--From abstr.

Filonov, K. P. ON THE DYNAMICS OF PARIDAE FLOCKS IN THE BARGUZINSK RESERVE. Trans. (Trudy) Barguzinsk Reserve 2: 101-108. 1960. [From Bird-Banding 39(4), 1968.] WR 134: 54

Keith, Allan R. A SUMMARY OF THE EXTRALIMITAL RECORDS OF THE VARIED THRUSH, 1848 TO 1966. Bird-Banding 39(4): 245-276, 2 figs. Oct. 1968. WR 134: 54

[Blue Mill Rd., New Vernon, N.J.] One hundred thirty-two records of at least 142 individual Ixoreus naevius have occurred at extralimital sites.--Courtesy/ Paul A. Stewart.

Skaggs, Marion, and Merit Skaggs. BIRDS OF HOLLY RIVER 1942 vs 1966. Redstart 35(4): 106-107. Oct. 1968. WR 134: 54

[Willoughby, Ohio.]

Sladen, William J. L., Robert E. LeResche, and Robert C. Wood. ANTARCTIC AVIAN POPULATION STUDIES, 1967-1968. Antarctic J. U.S. 3: 247-249, 3 figs. Nov.-Dec. 1968. WR 134: 54

[Johns Hopkins Univ., Baltimore, Md.] Returns on chicks continue to be low, indicating heavy first-year mortality. Reproductive success apparently increases with age and experience.

Wood, Robert C., Robert E. LeResche, and William J. L. Sladen. ANTARCTIC AVIAN POPULATION STUDIES, 1966-1967. Antarctic J. U.S. 2(4): 101-103, 1 fig. July-Aug. 1967. WR 134: 54

[Johns Hopkins Univ., Baltimore, Md.] A full clutch was produced by only 17% of the 3-year-old breeders, whereas a full clutch was produced by about 70% of the 4- and 5-year-old breeders. Older birds were more successful at rearing both chicks in a clutch. See WR 131: 84 for previous year's report.

BIRDS--ECONOMICS, CONTROL, MORTALITY

Clark, Alice M. THE ENGLISH SPARROW / IS HE AS VILLAINOUS AS THIS REPORT INDICATES? Audubon Bull. no. 148. p. 27-28. Dec. 1968. WR 134: 55
Bluebird fledglings apparently had been pecked to death by the sparrows, then buried under the sparrows' nest.

Greenwood, J. J. D., and J. P. F. Keddie. BIRDS KILLED BY OIL IN THE TAY ESTUARY, MARCH AND APRIL 1968. Scottish Birds 5(4): 189-196. Winter 1968. WR 134: 55
Most of the 1368 birds found dead, destroyed, or taken into care were eiders. Total mortality of the eiders was probably about 2000, though it may have been up to four times as high.--From summ.

Henry, Vernon G. PREDATION ON DUMMY NESTS OF GROUND-NESTING BIRDS IN THE SOUTHERN APPALACHIANS. J. Wildl. Mgmt. 33(1): 169-172. Jan. 1969. WR 134: 55
[Tenn. Game & Fish Comm., Nashville.] A study was conducted to determine the predation of dummy nests of ground-nesting game birds by European wild hogs (Sus scrofa) and of other species when possible. One hundred nests were established in 1966, 1967, and 1968. The percentage nests destroyed by species were as follows: snakes (spp.) (15.4), raccoons (Procyon lotor) (10.7), foxes (Vulpes fulva and Urocyon cineroargenteus) (9.0), opossums (Didelphis marsupialis) (8.2), crow (Corvus brachyrhynchos) (5.6), dogs (Canis familiaris) (3.4), hog (2.6), and skunk (Mephitis mephitis) (0.9). Predation was generally higher in areas of low hog populations. Significantly higher predation by snakes ($P < 0.10$) in areas of low hog populations indicate hog may reduce predation by snakes. Percentages of nests destroyed by predators each year were 52% in 1966, 60% in 1967, and 55% in 1968. It is concluded that the European wild hog is a very minor nest predator and does not add additional predation to the nests of ground-nesting birds but replaces predation by other species. Predation of nests apparently depends upon the relative sizes of the predator populations and availability of other food.--From abstr.

Jacobs, K. F. CAPTURE OF A PRAIRIE CHICKEN BY A PRAIRIE FALCON. Bull. Okla. Ornithol. Soc. 1: 8-9. 1968. [From Auk 86(1), 1969.] WR 134: 55

Jensen, Albert C., and Robert Livingstone, Jr. OFFSHORE RECORDS OF LAND BIRDS. Kingbird 19(1): 5-10. Jan. 1969. WR 134: 55
[N.Y. State Conserv. Dept., Ronkonkoma.] Summary: During a cooperative U.S.-Soviet fishery-oceanographic survey of the Middle Atlantic Bight in 1967, 29 spp. of land birds were observed on and around the U.S. research vessel Albatross IV and the Soviet research vessel Albatros. The birds appeared exhausted and disoriented. Some dead birds were found on the decks. These observations, and those of other authors, suggest that bird mortality may be great during migration over the open ocean or when the birds are blown out to sea during storms.

Pierce, Max E. TALL TELEVISION TOWER AND BIRD MIGRATION. S. Dak. Bird Notes 21(1): 4-5. Mar. 1969. WR 134: 55
[KSOO-TV, Inc., Sioux Falls, S. Dak.] Most bird kills occurred when birds flew at the lighted windows of the transmitter building.

Wiseman, Arthur J. BIRD INJURIES. Inland Bird Banding News 41(1): 24-27. Jan.-Feb. 1969. WR 134: 55
[2073 Harrison Ave., Cincinnati, Ohio.] Contains six case histories of abnormalities noted at a banding station.--Courtesy/ Paul A. Stewart.

BIRDS--PARASITES & DISEASES

Fleischman, Robert W., Robert A. Squire, W. J. L. Sladen, and Edward C. Melby, Jr. MALARIA (PLASMODIUM ELONGATUM) IN CAPTIVE AFRICAN PENGUINS (SPHENISCUS DEMERSUS). J. Am. Vet. Med. Assoc. 153(7): 928-935, 9 figs. 1 Oct. 1968. WR 134: 55
[Johns Hopkins Univ., Baltimore, Md.]

Savage, Howard, and James A. Dick. FOWL POX IN CASSIN'S SPARROW, AIMOPHILA CASSINII. Condor 71(1): 71-72, 2 figs. Jan. 1969. WR 134: 56
[Royal Ontario Museum, Toronto, Ontario, Canada.] The lesion occupied the lores and base of the upper bill.--Courtesy/ Paul A. Stewart.

Wallach, J. D. COMMON DISEASES AND RECOMMENDED TREATMENTS FOR WATERFOWL AND GAME BIRDS. Modern Game Breeding 5(5): 18-25. Mar. 1969. WR 134: 56
[St. Louis Zool. Park, St. Louis, Mo.] Symptoms of diseases are described and preventative and curative treatment are suggested.

GAME BIRDS--GENERAL

Greenberg, David B. CANNIBALISM IN GAME BIRDS. Modern Game Breeding 5(2): 17, 24. Dec. 1968. WR 134: 56
The feeding of cow or horse manure to pen-raised game birds supplements deficient diet and eliminates cannibalism.

Smith, Parker B., and Donald J. Hankla. MOURNING DOVE AND MIGRATORY WATERFOWL BANDING COSTS. Proc. 20th Ann. Conf. SE Assoc. Game & Fish Comms. p. 157-161. 1966 [1967]. WR 134: 56
[Bur. Sport Fisheries & Wildl., Atlanta, Ga.]

QUAIL

Casey, William H. SOME SPECULATIONS ON THE MINIMUM HABITAT REQUIREMENTS OF BOBWHITE QUAIL. Proc. 19th Ann. Conf. SE Assoc. Game & Fish Comms. p. 30-39. 1965 [1966]. WR 134: 56
[SCS, Lexington, Ky.] A review of 24 selected publications dealing with the habitat requirements of Colinus virginianus.

Daniels, G. L. OVULATION AND LONGEVITY IN THE JAPANESE QUAIL (COTURNIX COTURNIX JAPONICA) UNDER CONSTANT ILLUMINATION. Poultry Sci. 47(6): 1875-1878, 2 figs. Nov. 1968. WR 134: 56
[Montclair State Coll., Upper Montclair, N.J.] A flock of coturnix quail kept under 24 hour illumination produced 274 eggs per hen per year the first year, but stopped laying by the end of the second year. Mortality and symptoms of aging were more accelerated in females than in males.--From summ.

Fatora, Joseph R. ADDITIONAL OBSERVATIONS OF DEFECATION BY BOBWHITE QUAIL UPON FLUSHING. Bird-Banding 39(4): 319. Oct. 1968. WR 134: 56
[Univ. Ga., Athens.] Although no quantitative data were recorded on birds that flushed under conditions where defecation could be observed, the percentage defecating was estimated to be high.--Courtesy/ Paul A. Stewart.

Fatora, Joseph R., Ernest E. Provost, and James H. Jenkins. PRELIMINARY REPORT ON BREEDING PERIODICITY AND BROOD MORTALITY IN BOBWHITE QUAIL ON THE AEC SAVANNAH RIVER PLANT. Proc. 20th Ann. Conf. SE Assoc. Game & Fish Comms. p. 146-154, 3 figs. 1966 [1967]. WR 134: 56
[Univ. Ga., Athens.] The data from 55 brood observations indicate a mortality of approximately 50% from hatching to 15 weeks of age, with a mortality rate of 3% per week after the initial high mortality immediately after hatching. Data on 58 broods indicated a first peak in hatching activity around the 12th of June for 1964, with a second peak around the 18th of July, approximately 36 days later. A third peak in August is indicated. Periodic hatching peaks at intervals approximating the time required for renesting and incubating a clutch suggest heavy losses late in incubation. Hatching dates in 1964 spanned a period of 22 weeks, from the first week of May to the last week of September. Data for three years reveal that the main period of the hatch occurred in June. Peaks in calling activity were correlated with hatching peaks. The decline in calling activity appears to occur approximately one week prior to the peak of the hatch. The fluctuating call index thus can serve as an index to hatching activity.--From summ.

Harriman, Arthur E., and Joel S. Milner. PREFERENCE FOR SUCROSE SOLUTIONS BY JAPANESE QUAIL (COTURNIX COTURNIX JAPONICA) IN TWO-BOTTLE DRINKING TESTS. Am. Midland Nat. 81(2): 575-578. Apr. 1969. WR 134: 57
[Okla. State Univ., Stillwater.] The birds significantly preferred a 0.30 M sucrose solution over distilled water. Sucrose solutions of higher or lower concentration, however, were less preferred. The results suggest that need-free birds may select sucrose at certain concentrations primarily on the basis of palatability.--From abstr.

Kannankeril, J. V., and L. V. Domm. THE INFLUENCE OF GONADECTOMY ON SEXUAL CHARACTERS IN THE JAPANESE QUAIL. J. Morphol. 126(4): 395-412, 22 figs. Dec. 1968. WR 134: 57
[Loyola Univ., Hines, Ill.]

Lepore, P. D., and H. L. Marks. GROWTH RATE INHERITANCE IN JAPANESE QUAIL. 3. THYROID ACTIVITY OF LINES SELECTED UNDER DIFFERENT NUTRITIONAL ENVIRONMENTS. Poultry Sci. 47(6): 1774-1780, 2 figs. Nov. 1968. WR 134: 57
[USDA, Beltsville, Md.] See WR 132: 76 for Part 1 and WR 133: 63 for Part 2.

Speake, Dan W. EFFECTS OF CONTROLLED BURNING ON BOBWHITE QUAIL POPULATIONS AND HABITAT OF AN EXPERIMENTAL AREA IN THE ALABAMA PIEDMONT. Proc. 20th Ann. Conf. SE Assoc. Game & Fish Comms. p. 19-32, 5 figs. 1966 [1967]. WR 134: 57
[Ala. Coop. Wildl. Res. Unit, Auburn.] During a six-year period (1950-55) when approximately one-fourth of the burn-area was burned each year in late winter, the fall quail population averaged about the same as the check-area. During the next four years when approximately one-half of the burn-area was burned in late winter each year, the fall quail population of the burn-area dropped below that of the check-area. A final period of six years (1960-65) was characterized by annual late winter fires over the whole burn-area, except for 1961 when there was no fire. The fall quail population during this period averaged 50.1 birds per 100 acres on the burn-area which was about twice that of the check-area for the same period and four times the population of the burn-area for the preceding four-year period. This six-year average population figure was higher than any previous annual figure. Burning had little or no detrimental effects on growth and survival of planted slash pines on the burn-area. The planted pines were nine or ten years of age when the burning program was begun. Management of Piedmont pine stands for quail with fire and fertilizer is discussed.--From abstr.

Thomas, Keith P. SEX DETERMINATION OF BOBWHITES BY WING CRITERIA. J. Wildl. Mgmt. 33(1): 215-216, 1 fig. Jan. 1969. WR 134: 57
[Ill. Nat. Hist. Surv., Urbana.] Abstract: Sex of bobwhites (Colinus virginianus) can be determined on the basis of dimorphism in coloration and markings of the middle coverts of the wings. Characteristic color patterns were obscure in 10 to 15% of the examined bobwhite wings, but, with experience, workers could attain almost complete accuracy in sexing samples of wings obtained from hunters.

Webb, Lloyd G. QUAIL MORTALITY AND MOBILITY STUDY. Proc. 19th Ann. Conf. SE Assoc. Game & Fish Comms. p. 39-48, 1 fig. 1965 [1966]. WR 134: 57
[Clemson Univ., Clemson, S.C.] Studies on quail mortality, mobility, and daily and seasonal activities on a 10-acre study area of open land.

PHEASANTS

Smith, L. T., R. S. Hinkson, and L. E. Ousterhout. REPRODUCTIVE PERFORMANCE OF PHEASANT BREEDER HENS. Poultry Sci. 47(6): 1858-1862. Nov. 1968. WR 134: 57
[Univ. R.I., Kingston.] Studies on the influence of male beak treatment, age of breeder hen, administration of erythromycin, and fumigation of hatching eggs on the reproductive performance of caged pheasant breeders.

Stephens, Chester H. REEVE'S PHEASANT INVESTIGATIONS IN KENTUCKY. Proc. 21st Ann. Conf. SE Assoc. Game & Fish Comms. p. 222-231. 1967 [1968]. WR 134: 58

[Ky. Dept. Fish & Wildl. Resources, Frankfort.] The results derived from this six-year investigation of survival rates and factors affecting population dynamics of liberated pen-reared Reeve's pheasants were most discouraging and indicated that establishment of this species in Kentucky is not possible and should not be recommended.--From concl.

West, Richard R., Ronald B. Brunton, and Donald J. Cunningham. REPELLING PHEASANTS FROM SPROUTING CORN WITH A CARBAMATE INSECTICIDE. J. Wildl. Mgmt. 33(1): 216-219. Jan. 1969. WR 134: 58

[Bur. Sport Fisheries & Wildl., Federal Center, Denver, Colo.] Abstract: The protection of sprouting corn from pheasants (Phasianus colchicus) by treating the seed with a new repellent, DRC-736 [4-(methylthio)-3,5-xylyl N-methylcarbamate], was evaluated in May and June, 1967 on the Sand Lake National Wildlife Refuge, South Dakota. The three treatments (0.5 and 3.0% DRC-736 and the control) were each evaluated 100 times on 0.016-acre plots in each of four fields. The number of corn seedlings pheasants destroyed in the 400 plots of each treatment was 2,192 for the control but only 99 in the 0.5-percent plots and 59 in the 3.0-percent plots. This effective repellency did not occur until entire fields were treated instead of small plots within fields. The 0.5-percent DRC-736 treatment saved $10 worth of corn for every dollar spent for chemical.

GROUSE, PARTRIDGE, ETC.

Alto, Reino J. RAISING BLACK FRANCOLINS. Game Bird Breeders Gaz. 18(3): 7-8, illus. Mar. 1969. WR 134: 58

[P.O. Box 25, West Point, Calif.]

Kirikov, S. V., and O. N. Shubinkova, editors. [TETRAONID RESOURCES IN THE USSR.] "Nauka" Publishing House (Moscow). 96 p. 1968. [From Bird-Banding 39 (4), 1968. In Russian.] WR 134: 58

Summaries of 72 papers presented at a Moscow conference dealing with tetraonid ecology, population fluctuations, utilization, propagation, and distribution.

McBee, Richard H., and George C. West. CECAL FERMENTATION IN THE WILLOW PTARMIGAN. Condor 71(1): 54-58. Jan. 1969. WR 134: 58

[Mont. State Univ., Bozeman.] The chief fermentation products in the cecae of willow ptarmigan (Lagopus lagopus) were ethanol and acetic, propionic, butyric, and lactic acids. Active production of these materials was found only late in the day; the rate of production was enough to provide from 6-30% of the basal energy requirements. The majority of bacteria could not be cultivated, and none was identified.--From summ. Courtesy/ Paul A. Stewart.

McGowan, Jerry D. STARVATION OF ALASKAN RUFFED AND SHARP-TAILED GROUSE CAUSED BY ICING. Auk 86(1): 142-143. Jan. 1969. WR 134: 58

[Alaska Dept. Fish & Game, 604 Barnette St., Fairbanks.] About one-half inch of ice remained on the trees and snow for a period of five weeks. Dead and emaciated grouse were found about four weeks after the icing occurred.--Courtesy/ Paul A. Stewart.

Moulton, John C. RUFFED GROUSE HABITAT REQUIREMENTS AND MANAGEMENT OPPORTUNITIES. Wis. Dept. Nat. Resources Res. Rept. 36. 32 p., 6 figs. 1968. WR 134: 58

For land management field men, not basic research scientists or administrators. Management implications stressed are those which may be practical through forestry-wildlife coordination.--From introduction.

Palmar, C. E. BLACKGAME. Forestry Comm. (England) Forest Record no. 66. 23 p., 16 figs. 1968. Price 3 shillings. WR 134: 59

Includes description of plumage of Lyrurus tetrix, status in 1967, habitat, nesting behavior, enemies, the "lek" or courting display, food, damage to conifer plantations, and control or prevention of damage.

Robinson, William L. HABITAT SELECTION BY SPRUCE GROUSE IN NORTHERN MICHIGAN. J. Wildl. Mgmt. 33(1): 113-120. Jan. 1969. WR 134: 59

[Northern Mich. Univ., Marquette.] Abstract: A study of habitat selection by spruce grouse (Canachites canadensis) on a jack pine (Pinus banksiana) plain revealed that the birds chose areas of nearly pure conifers in which spruces (Picea mariana and P. glauca) were mixed with jack pines, tree growth was sparser than on the area as a whole, and blueberries (Vaccinium angustifolium and V. myrtilloides) prevailed among the low vegetation. Ruffed grouse (Bonasa umbellus) and spruce grouse did not share summer habitat. The ruffed grouse selected areas on the perimeter of the plain, where there were substantially more deciduous species with trees growing in greater density than in the spruce grouse habitat. In winter ruffed grouse were found more commonly within the spruce grouse range than in the summer.

Rogers, Glenn E. THE BLUE GROUSE IN COLORADO. Colo. Dept. Game, Fish & Parks Tech. Publ. no. 21. 64 p., 29 figs. June 1968. WR 134: 59

The report includes historical background, habitat preferences, population densities, distribution limits, census methods, courtship behavior, daily movements, and harvest successes of Dendragapus o. obscurus. Recognized grouse census methods proved to be of doubtful value in Colorado. The 3-year survey was conducted in southwest and west-central Colorado.

Tkachenko, V. I. [THE ECOLOGY OF GALLINACEOUS BIRDS OF THE HIGH-MONTANE REGION OF NORTHWEST CAUCASUS.] Trudy Teberdin. Gos. Zapovednika no. 6. p. 1-144, 12 figs. 1966. [From Bird-Banding 39(4), 1968.] WR 134: 59

"Lyrurus mlokosiewiczi, Tetraogallus caucasicus, and Alectoris keklik caucasica."

West, George C. BIOENERGETICS OF CAPTIVE WILLOW PTARMIGAN UNDER NATURAL CONDITIONS. Ecology 49(6): 1035-1045, 10 figs. Autumn 1968. WR 134: 59

[Univ. Alaska, College.] Daily activity of caged willow ptarmigans (Lagopus lagopus) began at the onset of civil twilight. There was a major peak of activity in the morning during the spring and early summer and in the late afternoon during fall and winter. The total daily activity was the same throughout the year, except that activity was greater among males during the season of courtship. The various energy-demanding activities occur sequentially so that energy requirements are about uniform throughout the year.--Courtesy/ Paul A. Stewart.

TURKEY

Austin, David H. TRAPPING TURKEYS IN FLORIDA WITH THE CANNON NET. Proc. 19th Ann. Conf. SE Assoc. Game & Fish Comms. p. 16-22, 4 figs. 1965 [1966]. WR 134: 59

Abstract: After two years of minor experimental use, the cannon net trap was made operational for routine turkey trapping in Florida. In 1963, 1964 and 1965, 934 turkeys were captured with the equipment and procedures described in this paper. A list of major equipment, its current cost, and sources of supply are included.

Beasom, Samuel L. SOME OBSERVATIONS OF SOCIAL HIERARCHY IN THE WILD TURKEY. Wilson Bull. 80(4): 489-490. Dec. 1968. WR 134: 59

[Univ. Wis., Madison.] Two identifiable hens were dominant over the rest of the flock.--Courtesy/ Paul A. Stewart.

Boeker, Erwin L., and Virgil E. Scott. ROOST TREE CHARACTERISTICS FOR MERRIAM'S TURKEY. J. Wildl. Mgmt. 33(1): 121-124, 2 figs. Jan. 1969. WR 134: 60

[Denver Wildl. Res. Center, Tempe, Ariz.] Abstract: Measurements were taken on 158 used and 42 unused ponderosa pine (Pinus ponderosa) trees at 12 roosting sites in central Arizona to determine the preferences of Merriam's wild turkey (Meleagris gallopavo merriami) for certain site and tree characteristics for roosting. The measurements included height, dbh, distance from ground to first branch, and age of the tree together with slope, aspect, and distance from permanent water. All but one of the sites contained a group of trees and 10 were located within 0.5 mile from permanent water. The number of trees used for roosting in each site ranged from 1 to 37 and averaged 13. A preference was indicated for easterly exposures and tall, mature, open-branched trees with no branches near the ground.

Kennamer, James Earl, and Dale H. Arner. WINTER FOOD AVAILABLE TO THE WILD TURKEY IN A HARDWOOD FOREST. Proc. 21st Ann. Conf. SE Assoc. Game & Fish Comms. p. 123-128, [3] figs. 1967 [1968]. WR 134: 60

[Miss. State Univ., State College.] Abstract: An analysis was made of 1132.5 square feet of forest litter collected during the late winter in a bottomland hardwood forest area of the Mississippi Delta. A seed cleaner and a Trier sampler were used to separate food items from litter trash and derive a quantitative estimate. Food available to the turkey averaged 135 lbs. per acre. Sugarberry seeds made up one-half of the entire amount. The next two most abundant items found were insect galls, 22.5 lbs., and grape, 19.6 lbs. The food items most commonly found in analysis of wild turkey crops and droppings were those usually appearing in the least quantity in the litter analysis. Pecan, animal matter, spice bush, and wild grape were the food items most frequently eaten by the wild turkey.

Lynch, Kenneth M. HOW TO CONTROL BLACKHEAD IN "WILD" TURKEYS. Conserv. Catalyst 2(4): 19. 1968. WR 134: 60

Applications of oil to the soil in the ground pen successfully interrupted the chain of transmission of the parasite, Histomonas meleagridis.

Prestwood, Annie Katherine. PARASITISM AMONG WILD TURKEYS (MELEAGRIS GALLOPAVO SILVESTRIS) OF THE MISSISSIPPI DELTA. Ph.D. thesis, Univ. Ga. v + 67 p., 3 figs. + unpaged appendix. 1968. WR 134: 60

Forty-one species of endo- and ectoparasites were encountered during the three year survey. Turkeys from three study areas were examined to determine host age differences in species and number of helminths, fluctuations of parasite burdens from year to year within and among turkey populations, and contributing factors to the fluctuations. Parasite burdens were related to duration of residence in the area, intermingling of populations, differences in feeding habits, season of collection, and amount of precipitation.--From summ.

Williams, Lovett E., Jr. PRELIMINARY REPORT ON METHOXYMOL TO CAPTURE TURKEYS. Proc. 21st Ann. Conf. SE Assoc. Game & Fish Comms. p. 189-193, 1 fig. 1967 [1968]. WR 134: 60

[Fla. Game & Fresh Water Fish Comm., Gainesville.] Abstract: A new hypnotic agent which is especially potent in birds was tested on free-feeding wild turkeys (Meleagris gallopavo) in Florida by oral administration on baits. One hundred thirteen were narcotized sufficiently to be captured. At the optimum dosage (4 grams of powdered drug per cup of bait) the first evidences of narcosis were noted almost immediately and some turkeys were captured within 3 minutes after beginning to feed. Narcosis wore off after 8 hours even in the more heavily drugged individuals. Mortality from overdosage was less than 3% at optimum dosage levels. The new drug is clearly superior in narcotic qualities to alpha-chloralose but it is so distasteful to turkeys that they often refused to eat it.

Williams, Lovett E., Jr., David H. Austin, and Jerry Peoples. PROGRESS IN CAPTURING TURKEYS WITH DRUGS APPLIED TO BAITS. Proc. 20th Ann. Conf. SE Assoc. Game & Fish Comms. p. 219-226, 2 figs. 1966 [1967]. WR 134: 61
[Fla. Game & Fresh Water Fish Comm., Gainesville.] Summary: Nearly 1,000 wild turkeys have been captured in Florida with orally administered narcotics during the past two years. About 833 of these were anesthetized with powdered alpha-chloralose applied to baits. The optimum dosage employed was 2 grams of alpha-chloralose per cup of bait. The proper application of the capture method demands that careful attention be given to preparing for the capture attempt. Careful pre-baiting is especially important. Trial-and-error experimentation with orally administered narcotics in Florida has provided a number of suggestions which can be followed by others who wish to catch wild turkeys with alpha-chloralose. A faster-acting drug similar to alpha-chloralose, called methoxymol, promises to be better for capturing turkeys. It will be thoroughly fieldtested soon.

Wunz, Jerry. A REPORT ON...PENNSYLVANIA'S FIRST SPRING GOBBLER SEASON. Pa. Game News 40(4): 9-13, illus. Apr. 1969. WR 134: 61
An estimated 1636 turkeys were bagged in Pennsylvania's first spring season in May 1968.

DOVES & PIGEONS

Brisbin, I. Lehr, Jr. BIOENERGETICS OF THE BREEDING CYCLE OF THE RING DOVE. Auk 86(1): 54-74, 7 figs. Jan. 1969. WR 134: 61
[Savannah River Ecol. Lab., Aiken, S.C.] The following items are discussed: body composition and weight of adults and nestlings; energy intake, productivity and conversion efficiency.--Courtesy/ Paul A. Stewart.

Crider, E. Dale. FLORIDA'S EXALTED DOVE HUNTING. Proc. 19th Ann. Conf. SE Assoc. Game & Fish Comms. p. 57-59. 1965 [1966]. WR 134: 61
Includes harvest figures for the period 1961-1964.

Gilpin, Arthur. COLLARED DOVES REPEATEDLY ATTACKING SONG THRUSH AT NEST. British Birds 61(11): 528-529. Nov. 1968. WR 134: 61
"Streptopelia decaocto and Turdus philomelos."

Lill, Alan. ALLOPREENING IN THE DOVE GEOTRYGON MONTANA. Condor 71(1): 72. Jan. 1969. WR 134: 61
[William Beebe Trop. Res. Sta., Simla, Arima Valley, Trinidad, West Indies.] A male ruddy quail-dove solicited and received allopreening from his mate after which copulation occurred.--Courtesy/ Paul A. Stewart.

Ljunggren, Lars. SEASONAL STUDIES OF WOOD PIGEON POPULATIONS. 1. BODY WEIGHT, FEEDING HABITS, LIVER AND THYROID ACTIVITY. Viltrevy 5(9): 435-504, 25 figs. 1968. In English with Swedish summ. WR 134: 61
[Univ. Lund, Lund, Sweden.]

Martin, Larry L. COMPARISON OF METHOXYMOL, ALPHA-CHLORALOSE AND TWO BARBITURATES FOR CAPTURING DOVES. Proc. 21st Ann. Conf. SE Assoc. Game & Fish Comms. p. 193-200, 1 fig. 1967 [1968]. WR 134: 61
[Fla. Game & Fresh Water Fish Comm., Ocala.] Abstract: Secobarbital sodium, methohexital sodium, methoxymol, and alpha-chloralose were used in field experiments to capture mourning doves (Zenaidura macroura) in Florida during 1966 and the spring of 1967. A total of 240 doves was caught. The four drugs are compared and the best dosage for each is given. Methoxymol proved superior to the others.

Ruos, James L., and Duncan MacDonald. MOURNING DOVE STATUS REPORT, 1967. US F&WS, Spec. Sci. Rept.--Wildl. no. 121. iv + 23 p., 6 figs. Dec. 1968. For sale by Supt. Documents at 35¢. WR 134: 62

[Migratory Bird Populations Sta., Laurel, Md.] Data analyses suggest that 1967 dove populations declined to approximately the 1965 level in all units. Present population indexes in all units are below the 10-year (1957-66) mean. Long-term trends in population densities indicate that dove breeding populations in all units are considerably below the peak of 1960 and, with the exception of the Eastern Management Unit, are at their lowest level since 1957.--From abstr.

Stone, Charles P. A LITERATURE REVIEW ON MOURNING DOVE SONG AS RELATED TO THE COO-COUNT CENSUS. Colo. Dept. Game, Fish & Parks Spec. Rept. no. 11. iii + 28 p. Aug. 1966. Available at $1.00 from Colo. Game, Fish & Parks Dept., Denver. WR 134: 62

Includes types and functions of song, nature of song, ontogeny of song, internal and external environment of dove song, and a proposed explanation of dove song.

WATERFOWL

Allen, William R. DEVELOPMENT AND MANAGEMENT OF THE BLYTHE FERRY GOOSE MANAGEMENT AREA, MEIGS COUNTY, TENNESSEE. Proc. 21st Ann. Conf. SE Assoc. Game & Fish Comms. p. 155-160. 1967 [1968]. WR 134: 62

[Tenn. Game & Fish Comm., Nashville.]

Anderson, Bertin W., Tauno E. Ketola, and Dwain W. Warner. SPRING SEX AND AGE RATIOS OF LESSER SCAUP AND RING-NECKED DUCKS IN MINNESOTA. J. Wildl. Mgmt. 33(1): 209-212. Jan. 1969. WR 134: 62

[Univ. S. Dak., Vermillion.] Abstract: Age and sex ratios were analyzed in a spring sample of 1,733 lesser scaup (Aythya affinis) and 447 ring-necked ducks (A. collaris) obtained in Minnesota in March, 1963. Determinations were made by dissection and internal examination. The bursa of Fabricius was used as an age indicator. By this technique 31.4% (141) of the ring-necked ducks and 17.1% (296) of the lesser scaup were judged to be immatures (yearlings). The sex ratios of the immatures did not deviate significantly from 1:1 although a slightly greater number of males were encountered in both species. The sex ratios among the adult ring-necked were 1.94 males per female, and in the adult lesser scaup 3.54 males per female. The adult sample therefore showed significant deviations from an even sex ratio. The number of immatures per adult female ring-necked was 1.36 and the number of immatures per adult female lesser scaup was 0.96. The index of bursal size is felt to be a useful and reliable measure for studying age composition in early spring populations of these species. Ancillary plumage and oviduct data support this conclusion and are discussed briefly.

Barske, Philip, editor. BLACK DUCK / EVALUATION, MANAGEMENT AND RESEARCH: A SYMPOSIUM. Atlantic Waterfowl Council and Wildl. Mgmt. Inst. iii + 193 p. illus. [1969.] Copies may be purchased from Allan S. Kennedy, Secretary, Atlantic Waterfowl Council, Sugar Rd., Boston, Mass. 01740 at $2.00. WR 134: 62

Contents: General review, C. E. Addy; Historical and current status / Canadian situation, William T. Munro; [Historical and current status] United States situation, Dirck Benson; Population dynamics: mortality, survival, production, kill / Black duck harvest and population dynamics in eastern Canada and the Atlantic Flyway, R. K. Martinson, A. D. Geis, and R. I. Smith; Habitat and breeding ecology / Eastern Canada, Austin Reed; [Habitat and breeding ecology] Northeastern states, M. W. Coulter and H. L. Mendall; [Habitat and breeding ecology] East central United States, Vernon D. Stotts; [Habitat and breeding ecology] Some observations on aerial surveys of black ducks, E. B. Chamberlain; [Habitat and breeding ecology] Environmental pollution, Lucille F. Stickel; Management possibilities that effect status of black duck / Control of environmental pollution, Roland C. Clement; [Management possibilities

that effect status of black duck] Habitat manipulations for production, Donald D. Foley; [Management possibilities that effect status of black duck] Control of predators and competitors, Frank B. McGilvrey; [Management possibilities that effect status of black duck] A Canadian view on regulations and the black duck, William R. Miller; What comes next? A United States point of view, Norman G. Wilder; [What comes next?] A Canadian viewpoint, A. G. Loughrey.

Chamberlain, E. B. PROGRESS REPORT: PRODUCTIVITY STUDY OF WHISTLING SWANS WINTERING IN CHESAPEAKE BAY. Proc. 20th Ann. Conf. SE Assoc. Game & Fish Comms. p. 154-157. 1966 [1967]. WR 134: 63
[Migratory Bird Populations Sta., Laurel, Md.]

Conrad, W. Brock, Jr. A FOOD HABITS STUDY OF DUCKS WINTERING ON THE LOWER PEE DEE AND WACCAMAW RIVERS, GEORGETOWN, SOUTH CAROLINA. Proc. 19th Ann. Conf. SE Assoc. Game & Fish Comms. p. 93-97. 1965 [1966]. WR 134: 63
[S.C. Wildl. Resources Dept., Eutawville.]

Cornwell, George W. NEEDLESS DUCK DEATHS. Conserv. Catalyst 2(4): 15-18, 3 figs. 1968. WR 134: 63
[Univ. Fla., Gainesville.] More than two million observations of waterfowl non-hunting mortality were compiled and analyzed; lead poisoning, pollution, netting, trapping, collision, disease, predation, and banding are factors.

Crider, E. Dale. CANADA GOOSE INTERCEPTIONS IN THE SOUTHEASTERN UNITED STATES, WITH SPECIAL REFERENCE TO THE FLORIDA FLOCK. Proc. 21st Ann. Conf. SE Assoc. Game & Fish Comms. p. 145-155, 3 figs. 1967 [1968]. WR 134: 63
[Fla. Game & Fresh Water Fish Comm., Gainesville.] Abstract: Band recovery locations of Canada geese (Branta canadensis) banded in Florida are discussed in regard to the Canada goose decline in Florida and other southeastern states. Flock inventories of traditional wintering areas in the South and newly-established mid-continent wintering sites are reported. Limited data indicate refuges with grain farming located along migration routes have intercepted Canada geese enroute to their ancestral wintering areas. The resulting problems are stressed.

Crider, E. Dale, and Jimmie C. McDaniel. TECHNIQUE FOR CAPTURING CANADA GEESE WITH ALPHA-CHLORALOSE. Proc. 20th Ann. Conf. SE Assoc. Game & Fish Comms. p. 226-233. 1966 [1967]. WR 134: 63
[Fla. Game & Fresh Water Fish Comm., Gainesville.] Summary: During field trials in the winters of 1965 and 1966, 573 Canada geese and five blue geese (Chen caerulescens) were caught with alpha-chloralose, an oral anesthetic. The mortality rate was 2.6% in 475 geese captured with 0.25 grams of the drug mixed with each cup of bait.

Dimmick, Ralph W. CANADA GEESE OF JACKSON HOLE / THEIR ECOLOGY AND MANAGEMENT. Wyo. Game & Fish Comm. Bull. no. 11. 86 p., 26 figs. 1968. Price $1.50. WR 134: 63
[Univ. Tenn., Knoxville.] A three-year study of the nesting population of Branta canadensis moffiti in Jackson Hole, Wyoming. The report includes a description of the study area, methods of conducting the survey, the annual cycle of the geese (winter behavior, spring migration, courtship and nesting, brood-rearing, molting, and autumn migration), population dynamics, and recommendations for improvement of management.

Dirschl, Herman J. FOODS OF LESSER SCAUP AND BLUE-WINGED TEAL IN THE SASKATCHEWAN RIVER DELTA. J. Wildl. Mgmt. 33(1): 77-87. Jan. 1969. WR 134: 63
[Canadian Wildl. Serv., Saskatoon, Saskatchewan, Canada.] Abstract: The food habits of adult lesser scaup (Aythya affinis) and blue-winged teal (Anas discors) were compared through analysis of monthly samples of gullet contents in an area of typical breeding habitat in the Saskatchewan River Delta. Lesser

scaup consumed an average of 66% animal food and 34% plant food, whereas blue-winged teal used animal and plant foods in nearly equal amounts. Significant changes in the proportions of plant and animal foods occurred between months; they appeared to be correlated with changing abundance of food items. Major foods of lesser scaup were invertebrates and aquatic seeds abundant throughout the shallow eutrophic lakes of the Delta. Main foods of blue-winged teal were snails and seeds of emergent and other marsh plants associated chiefly with the lake shorelines. These differences in the diets reduce competition between the two species and contribute to their ecological separation within the habitat. Water levels constantly held high to increase duck nesting success will not diminish the food supply for scaup but, in the long run, will be detrimental to the food supply for teal.

Ferguson, William. GROWTH RATES IN CERTAIN CAPTIVE WILD DUCKS. Game Bird Breeders Gaz. 18(2): 12, 1 fig. Feb. 1969. WR 134: 64
[Winter Park, Fla.] Growth curves of American pintail, black duck, Bahama pintail, and red crested pochard ducklings.

Hankla, Donald J., and Royston R. Rudolph. CHANGES IN THE MIGRATION AND WINTERING HABITS OF CANADA GEESE IN THE LOWER PORTION OF THE ATLANTIC AND MISSISSIPPI FLYWAYS--WITH SPECIAL REFERENCE TO NATIONAL WILDLIFE REFUGES. Proc. 21st Ann. Conf. SE Assoc. Game & Fish Comms. p. 133-144. 1967 [1968]. WR 134: 64
A state-by-state review of midwinter waterfowl inventory data, national wildlife refuge narrative reports, and band return data revealed that major changes have occurred in the migration and wintering patterns of Canada geese in the lower portion of the Atlantic and Mississippi Flyways. Wintering population decreases occurred in Fla., N.C., Miss., La., and Ark. Increases occurred in S.C., Md., Ala., Tenn., and Ky. Ga. and Va. registered no appreciable change. Some of the suggested causes of these changes are: (1) A change in goose food habits. (2) Waterfowl management areas. (3) Hunting pressure. (4) Disturbance.--From concl.

Harrison, James. EXAMPLES OF INTERSEXUALITY IN THE MALLARD AND TEAL. Bull. British Ornithol. Club 88(9): 154-160, [4 figs.]. Dec. 1968. WR 134: 64

Higgins, Kenneth F., and Lyle J. Schoonover. AGING SMALL CANADA GEESE BY NECK PLUMAGE. J. Wildl. Mgmt. 33(1): 212-214, 1 fig. Jan. 1969. WR 134: 64
[Northern Prairie Wildl. Res. Center, Jamestown, N. Dak.] Abstract: The neck plumage method, a new technique for separating immature from adult Canada geese (Branta canadensis) in the hand, was evaluated by comparison with the notched tail feather and cloacal examination methods. Two (1.4%) of 141 geese examined were misaged, resulting in a 6% error in the immature-adult ratio obtained by the neck plumage method. The neck plumage method is a rapid aging method and reasonable accuracy (94%) can be obtained. It can also be used to differentiate immatures from adults on the ground at distances up to 175 yards, but was almost impossible to use when geese were in flight. As yet, the neck plumage method has only been tested on the subspecies (B. c. hutchinsii-parvipes complex) in the Tall-Grass Prairie population of small Canada geese.

Lavery, H. J. STUDIES OF WATERFOWL (ANATIDAE) IN NORTH QUEENSLAND. 2. PARASITE RECORDS. Queensland J. Agr. & Animal Sci. 24: 125-129. 1967. WR 134: 64
[Animal Health Sta., Oonoonba, Townsville, Australia.] List of 44 new records of parasites collected in north Queensland during 1958-1964. See WR 129: 78 for Part 1.

Martinson, R. Kahler, James F. Voelzer, and Mildred R. Hudgins. WATERFOWL STATUS REPORT 1968. US F&WS, Spec. Sci. Rept.--Wildl. no. 122. ii + 158 p. Dec. 1968. Sold by Supt. Documents at $1.25. WR 134: 64
Includes results of winter survey by flyway, breeding ground survey by state or province, and waterfowl harvest data.

McGilvrey, Frank B. SURVIVAL IN WOOD DUCK BROODS. J. Wildl. Mgmt. 33(1): 73-76. Jan. 1969. WR 134: 65

[Patuxent Wildl. Res. Center, Laurel, Md.] Abstract: Mortality of wood ducklings (Aix sponsa) from hatching to 6 weeks of age averaged 47% during a 4-year study at the Patuxent Wildlife Research Center. Over 90% of the total mortality occurred during the first 2 weeks of life. Brood bonds began to dissolve after the fifth week. Mortality after 2 weeks was so low that Class II broods were believed to provide reliable estimates of production to flying age. Once-a-week brood census proved unreliable in estimating survival, but twice-a-week counts were accurate enough to estimate total broods and survival to Class II age.

Scott, R. E. CANADA GOOSE TAKING OVER AND HATCHING MALLARD'S EGGS. British Birds 61(11): 526. Nov. 1968. WR 134: 65

Stieglitz, Walter O. UTILIZATION OF AVAILABLE FOODS BY DIVING DUCKS ON APALACHEE BAY, FLORIDA. Proc. 20th Ann. Conf. SE Assoc. Game & Fish Comms. p. 42-50, 1 fig. 1966 [1967]. WR 134: 65

[Bur. Sport Fisheries & Wildl., Delray Beach, Fla.] Gizzards and gullets of fourteen diving ducks were subsequently collected in order to correlate feeding activities with available foods. Greater scaup consumed large quantities of animal foods. Redheads consumed considerably more vegetative material than animal, and showed a predilection for shoalgrass. Shoalgrass constituted 67.9% of the total volume of all foods consumed by diving ducks. Turtlegrass and manateegrass apparently are of little value as waterfowl foods in this area. Vegetative production data were correlated with food habits to determine the approximate carrying capacity of the study area in waterfowl use days, and to ascertain the percentage utilization of the standing crop of vegetation by waterfowl during the 1964-65 over-wintering period.--From abstr.

Threlfall, William. ATYPICAL BEHAVIOR OF A GREEN-WINGED TEAL. Wilson Bull. 80(4): 488. Dec. 1968. WR 134: 65

[Memorial Univ. Newfoundland, St. John's, Newfoundland, Canada.] The teal (Anas carolinensis) would follow a fishing boat about one-fourth mile out to sea and spend the day feeding nearby.--Courtesy/ Paul A. Stewart.

Timken, Richard L., and Bertin W. Anderson. FOOD HABITS OF COMMON MERGANSERS IN THE NORTHCENTRAL UNITED STATES. J. Wildl. Mgmt. 33(1): 87-91. Jan. 1969. WR 134: 65

[Minot State Coll., Minot, N. Dak.] Abstract: A sample of 220 common mergansers (Mergus merganser) was collected from Minnesota, Nebraska and South Dakota during three years, 1966-1968. Observations of common merganser feeding behavior were made during the years 1963-1968. The sample of stomachs was obtained from fall and spring migrants, and winter residents. Sixty-seven stomachs (30%) of the total sample contained food items. Only 13% of these items could be considered game fish, the remainder were rough and forage fish. The common merganser in the Northcentral United States is not a serious predator of game fish, but is potentially a valuable game bird. The fall sample had significantly less stomachs with food items than the spring sample.

CRANES, RAILS, SHOREBIRDS

Bancroft, Griffing. A GREAT WHITE HERON IN GREAT BLUE NESTING COLONY. Auk 86(1): 141-142. Jan. 1969. WR 134: 65

[Captiva, Fla.] A great white heron (Ardea "occidentalis") was apparently mated with a Ward's great blue heron (Ardea herodias wardi).--Courtesy/ Paul A. Stewart.

Bengtson, Sven-Axel. THE BREEDING BEHAVIOUR OF THE GREY PHALAROPE IN WEST SPITSBERGEN. Vår Fågelvärld 27: 1-13. 1968. [From Bird-Banding 39(4), 1968.] WR 134: 65

Phalaropus fulicarius compared with P. lobatus.

Burger, Joanna, and Richard Brownstein. THE LITTLE GULL IN WESTERN NEW YORK. Kingbird 18(4): 187-194, 3 figs. Oct. 1968. WR 134: 66
[1300 Elmwood Ave., Buffalo, N.Y.] Larus minutus was first recorded in the state in 1938, and has been sighted in increasing numbers in subsequent years. There are more records for November than for any other month.

Carroll, A. L. K. FOODS OF THE WHITE-FACED HERON. Notornis 14: 11-17. 1967. [From Auk 86(1), 1969.] WR 134: 66
Contents of 89 stomachs show Ardea novaehollandiae is primarily a wetland-pasture and aquatic feeder.

Davis, Thomas H. WINTER RECOVERIES OF SNOWY EGRETS BANDED ON LONG ISLAND. Bird-Banding 39(4): 317. Oct. 1968. WR 134: 66
[8613-85 St., Woodhaven, N.Y.] Three nestlings banded on Long Island, N.Y. were recovered in the West Indies, as much as 1900 miles from their hatching places.--Courtesy/ Paul A. Stewart.

Devore, Jon E. A NESTING STUDY OF THE KING RAIL AND LEAST BITTERN. Migrant 39(3): 53-58, 1 fig. Sept. 1968. WR 134: 66
[4922 Sarasota Drive, Hixson, Tenn.] Five king rail and 18 least bittern nests were located. King rail hatching success was 18.1%; least bittern hatching success was 36.3%.

Dusi, Julian L., and Rosemary T. Dusi. ECOLOGICAL FACTORS CONTRIBUTING TO NESTING FAILURE IN A HERON COLONY. Wilson Bull. 80(4): 458-466, 2 figs. Dec. 1968. WR 134: 66
[Auburn Univ., Auburn, Ala.] Nesting success in a colony of little blue herons (Florida caerulea) was 14.5%. The low nesting success was the result of predation by gray rat snakes (Elaphe obsoleta spiloides), barred owls (Strix varia) and fish crows (Corvus ossifragus) and by nest desertions resulting from interspecific nesting and roosting pressure.--From summ. Courtesy/ Paul A. Stewart.

Eltringham, S. K. AN EXPERIMENT ON THE CONTROL OF MARABOU STORKS. East African Wildl. J. 6: 147-148. Aug. 1968. WR 134: 66
[Nuffield Unit Tropical Animal Ecol., Queen Elizabeth Park, Uganda.]

Fordham, R. A. DURABILITY OF BANDS ON DOMINICAN GULLS. Notornis 14: 28-30. 1967. [From Auk 86(1), 1969.] WR 134: 66

Fordham, R. A. HISTORY AND STATUS OF THE DOMINICAN GULL IN WELLINGTON. Notornis 14: 144-153. 1967. [From Auk 86(1), 1969.] WR 134: 66
The history of 21 mainland and 10 island colonies is given.

Greenhalgh, M. E., and P. A. Greenhalgh. OYSTERCATCHERS NESTING ON RUBBISH TIP. British Birds 61(11): 528. Nov. 1968. WR 134: 66
"Haematopus ostralegus."

Hanebrink, Earl L. A COMPARISON OF THREE HERONRIES IN THE MISSISSIPPI VALLEY. Migrant 39(3): 49-52. Sept. 1968. WR 134: 66
[Ark. State Univ., State College.] "In comparing these three heronries the numbers of breeding pairs are about the same and the nesting areas are somewhat of the same size and near the Mississippi River. The 'sloughs' and 'barrow pits' along the Mississippi River serve as major feeding grounds. The arrival date is the same for each of the heronries."

Harvey, J. M., B. C. Lieff, C. D. MacInnes, and J. P. Prevett. OBSERVATIONS ON BEHAVIOR OF SANDHILL CRANES. Wilson Bull. 80(4): 421-425. Dec. 1968. WR 134: 66
[Cornell Univ., Ithaca, N.Y.] Sandhill cranes (Grus canadensis) were observed eating eggs and hatching young of blue geese (Chen caerulescens) and chicks of willow ptarmigan (Lagopus lagopus). One crane stomach contained a collared lemming (Dicrostonyx torquatus). The two young of a brood were attended separately, one by each parent, but both parents defended threatened young.--From summ. Courtesy/ Paul A. Stewart.

Haverschmidt, F. NOTES ON THE BOAT-BILLED HERON IN SURINAM. Auk 86(1): 130-131, 1 fig. Jan. 1969. WR 134: 67
[Wolfskuilstraat 9A, Ommen, Holland.] "Cochlearius cochlearius."--Courtesy/ Paul A. Stewart.

Hutchison, R. E., J. G. Stevenson, and W. H. Thorpe. THE BASIS FOR INDIVIDUAL RECOGNITION BY VOICE IN THE SANDWICH TERN (STERNA SANDVICENSIS). Behaviour 32(1-3): 150-157, 1 fig. + 1 pl. 1968. In English with German summ. WR 134: 67
[Madingley, Cambridge, England.]

Ivanova, N. S. [NOTES ON THE POSTNATAL DEVELOPMENT OF THE CORN CRAKE AND MOORHEN OF THE FAMILY RALLIDAE.] Vestnik Leningradskogo Univ. 1968(9): 89-95. 1968. [From Bird-Banding 39(4), 1968. In Russian with English summ.] WR 134: 67
"Gallinula chloropus and Crex crex."

Ivanovs, Michael. RACCOON PILFERED A GREAT BLUE HERON'S NEST. Loon 40(4): 133. Dec. 1968. WR 134: 67
[P.O. Box 105, Onamia, Minn.]

Lambert, Kurt. BEOBACHTEN ZUM ZUG UND WINTERQUARTIER DER SCHWALBENMÖWE (XEMA SABINI) IM ÖSTLICHEN ATLANTIK. [MIGRATION AND WINTER QUARTERS OF SABINE'S GULL IN THE EASTERN ATLANTIC.] Vogelwarte 24(2): 99-106. 1967. [From Bird-Banding 39(4), 1968. In German with English summ.] WR 134: 67

Leggett, Kenneth. HERONRY AT DYERSBURG STILL ACTIVE. Migrant 39(3): 59. Sept. 1968. WR 134: 67
[RFD 1, Dyersburg, Tenn.] Approximately 500 nests were active in 1968, most of which were little blue heron.

Maxwell, George R., and Loren S. Putnam. THE MAINTENANCE BEHAVIOR OF THE BLACK-CROWNED NIGHT HERON. Wilson Bull. 80(4): 467-478, 10 figs. Dec. 1968. WR 134: 67
[Rice Creek Biol. Field Sta., State Univ. N.Y., Oswego.] Locomotion and body maintenance activities are described. Feeding behavior involves active participation of both the parent and the immature bird.--Courtesy/ Paul A. Stewart.

McKenzie, H. R. CENSUS RECORDS OF GODWIT FOR FIRTH OF THAMES AND MANUKAU HARBOUR. Notornis 14: 18-21. 1967. [From Auk 86(1), 1969.] WR 134: 67
"Limosa lapponica."

McKenzie, H. R. CENSUS RECORDS OF KNOT FOR FIRTH OF THAMES AND MANUKAU HARBOUR. Notornis 14: 154-157. 1967. [From Auk 86(1), 1969.] WR 134: 67
During 1951-1966.

McKenzie, H. R. CENSUS RECORDS OF PACIFIC GOLDEN PLOVER FOR FIRTH OF THAMES AND MANUKAU HARBOUR. Notornis 14: 214-217. 1967. [From Auk 86(1), 1969.] WR 134: 67
"Pluvialis dominica."

McNicholl, Martin K. THE KNOT AS A MIGRANT IN SOUTHERN MANITOBA. Blue Jay 27(1): 28-34, 2 figs. Mar. 1968. WR 134: 67
[Univ. Manitoba, Winnipeg, Manitoba, Canada.] Records of sightings since 1923. The status of Calidris canutus appears to be that of regular spring transient along Hudson Bay, and casual spring migrant in the south.

Oring, Lewis W. VOCALIZATIONS OF THE GREEN AND SOLITARY SANDPIPERS. Wilson Bull. 80(4): 395-420, 7 figs. + 1 pl. Dec. 1968. WR 134: 67
[Univ. N. Dak., Grand Forks.] The nature and function of the various calls of Tringa ochropus and T. solitaria are described.--Courtesy/ Paul A. Stewart.

Pullen, R. C. NESTING SUCCESS OF A PIED STILT COLONY. Notornis 14: 76-79. 1967. [From Auk 86(1), 1969.] WR 134: 68
Data on 20 Himantopus leucocephalus nests.

Ridpath, M. G., and G. K. Meldrum. DAMAGE TO OAT CROPS BY THE TASMANIAN NATIVE HEN, TRIBONYX MORTIERII. CSIRO Wildl. Res. 13(1): 25-43, 4 figs. Dec. 1968. WR 134: 68
[Div. Wildl. Res., CSIRO, Helena Valley, Australia.]

Ridpath, M. G., and G. K. Meldrum. DAMAGE TO PASTURES BY THE TASMANIAN NATIVE HEN, TRIBONYX MORTIERII. CSIRO Wildl. Res. 13(1): 11-24, 3 figs. Dec. 1968. WR 134: 68
[Div. Wildl. Res., CSIRO, Helena Valley, Australia.]

Rylander, Michael Kent. PATHOLOGICAL CHANGES ASSOCIATED WITH BIRDSHOT EMBEDDED IN SANDPIPER MUSCLE TISSUE. Auk 86(1): 132-133, 1 fig. Jan. 1969. WR 134: 68
[Texas Technol. Coll., Lubbock.] Describes some of the histological changes which occurred in the muscle tissue of a red-backed sandpiper (Erolia alpina) in the forming of a capsule around the shot pellet.--Courtesy/ Paul A. Stewart.

Southern, William E. AGE COMPOSITION OF A BREEDING RING-BILLED GULL POPULATION. Inland Bird Banding News 40(5): 166-167, 1 fig. Sept.-Oct. 1968. WR 134: 68
[Northern Ill. Univ., DeKalb.] Of 332 marked and recaptured Larus delawarensis, 96% were 2-7 years of age and 80.4% were 3-6 years of age. One gull was 12 years old.--Courtesy/ Paul A. Stewart.

van Tets, G. F. SEASONAL FLUCTUATIONS IN THE MORTALITY RATES OF THREE NORTHERN- AND THREE SOUTHERN-HEMISPHERE GULLS. CSIRO Wildl. Res. 13(1): 1-9, 7 figs. Dec. 1968. WR 134: 68
[Div. Wildl. Res., CSIRO, Canberra, Australia.] Mortality tends to be low during the main breeding season and at that time it is usually higher in older than in yearling gulls. After the main breeding season a mortality peak in older birds tends to precede a post-fledging mortality peak in juveniles. Only in the glaucous-winged gull do winter mortalities exceed summer mortalities.--From summ.

Young, John G. BIRDS OF THE SCAR ROCKS--THE WIGTOWNSHIRE GANNETRY. Scottish Birds 5(4): 204-208 + 2 pls. Winter 1968. WR 134: 68
Summary: The Scar Rocks are described, and a systematic list is given of the birds recorded, together with censuses of the breeding birds in 1943, 1953, 1965 and 1968, tables of birds ringed and recovered, and a history of the build-up of the gannetry from one or more nests in 1939 to 437 in 1968.

HAWKS & OWLS

Carroll, A. L. K. FOODS OF THE HARRIER. Notornis 15: 23-28. 1968. [From Auk 86(1), 1969.] WR 134: 68
Stomach contents of 124 Circus approximans showed their food to be predominantly birds, mammals, and insects, occasionally frogs and fish.

Dustan, Thomas C. BREEDING SUCCESS OF OSPREY IN MINNESOTA FROM 1963 TO 1968. Loon 40(4): 109-112, 3 figs. Dec. 1968. WR 134: 68
[Univ. S. Dak., Vermillion.]

Glue, D. E. BIRD PREDATORS FEEDING AT AUTUMN ROOSTS. British Birds 61(11): 526-527. Nov. 1968. WR 134: 68
"Falco subbuteo, F. tinnunculus, Accipiter nisus and Tyto alba."

Mathisen, John E. IDENTIFICATION OF BALD EAGLE AND OSPREY NESTS IN MINNESOTA. Loon 40(4): 113-114, 2 figs. Dec. 1968. WR 134: 69
[Chippewa Natl. Forest, Cass Lake, Minn.] Comparative features, such as tree species, condition of tree, timber type, location in tree, and size and shape of nest, help identify the nest. This article also appears in Inland Bird Banding News 41(1): 21-23, Jan.-Feb. 1969.

Mathisen, John E., and Ann Mathisen. SPECIES AND ABUNDANCE OF DIURNAL RAPTORS IN THE PANHANDLE OF NEBRASKA. Wilson Bull. 80(4): 479-486, 7 figs. Dec. 1968. WR 134: 69
[Chippewa Natl. Forest, Cass Lake, Minn.] A total of 2,654 raptors of 17 spp. were observed during 53,347 miles of road travel.--Courtesy/ Paul A. Stewart.

McBee, Lena G. MISSISSIPPI KITES FLEDGE THREE. Auk 86(1): 139. Jan. 1969. WR 134: 69
[2002 Westridge Rd., Carlsbad, N. Mex.] Courtesy/ Paul A. Stewart.

Mueller, Helmut C., and Daniel D. Berger. NAVIGATION BY HAWKS MIGRATING IN SPRING. Auk 86(1): 35-40, 1 fig. Jan. 1969. WR 134: 69
[Univ. N.C., Chapel Hill.] Of 7,779 hawks observed during the northward migration season, about 40% were southbound. "We now believe that at least some of the southbound birds are reorienting, or searching for summer homes."--Courtesy/ Paul A. Stewart.

Reichel, W. L., T. G. Lamont, E. Cromartie, and L. N. Locke. RESIDUES IN TWO BALD EAGLES SUSPECTED OF PESTICIDE POISONING. Bull. Environmental Contamination & Toxicol. 4(1): 24-30. Jan.-Feb. 1969. WR 134: 69
[Patuxent Wildl. Res. Center, Laurel, Md.] The combination of death with tremors or convulsions, depletion of fat reserves, and critical residues of dieldrin (7.0 ppm) in the brain of one specimen and DDE plus DDT (34.7 ppm) in the other, leads to the conclusion of probable death by pesticide poisoning.

Reynolds, Harry V. III. POPULATION STATUS OF THE GOLDEN EAGLE IN SOUTH-CENTRAL MONTANA. M.S. thesis, Univ. Mont. [vii] + 61 p., 1 fig. 1969. WR 134: 69
Major topics of discussion include: description of the study area, food habits, population dynamics, survey of pesticides, and possible causes of changes in population characteristics. Reduction in numbers of jackrabbits and cottontails was the primary cause of decline in Aquila chrysaetus populations. Environmental factors other than food availability were considered to have a negligible effect on golden eagle populations.

Rusk, Margaret S. SNOWY OWL FACE-CLEANING. Kingbird 19(1): 15-16. Jan. 1969. WR 134: 69
[220 Ostrom Ave., Syracuse, N.Y.] "Nyctea scandiaca."

Sabadoš, Karol, and Jozef Sládek. [FOOD OF HAWKS AND OWLS IN A PHEASANTRY DURING AN UNUSUALLY HARD WINTER.] Biológia (Bratislava) 23(5): 363-369. 1968. [From J. Mammal. 50(1), 1969. In Czech with Russian and German summ.] WR 134: 69

Scharf, William C. IMPROVED TECHNIQUES FOR TRAPPING HARRIERS. Inland Bird Banding News 40(5): 163-165, 2 figs. Sept.-Oct. 1968. WR 134: 69
[Northwestern Mich. Coll., Traverse City.] Courtesy/ Paul A. Stewart.

Scott, R. E. MERLINS ASSOCIATING WITH ROOSTING STARLINGS. British Birds 61(11): 527-528. Nov. 1968. WR 134: 69
"Falco columbarius."

Stewart, Paul A. PREY IN TWO SCREECH OWL NESTS. Auk 86(1): 141. Jan. 1969. WR 134: 70
[Entomol. Res. Div., Agr. Res. Serv., USDA, Oxford, N.C.] One of the nests contained 8 insectivorous birds.

Walter, Hartmut. ZUR ABHÄNGIGKEIT DES ELEONORENFALKEN (FALCO ELEONORAE VOM MEDITERRANEN VOGELZUG). [DEPENDENCE OF FALCO ELEONORAE ON TRANS-MEDITERRANEAN BIRD MIGRATION.] J. Ornithol. 109(3): 323-365. 1968. [From Bird-Banding 39 (4), 1968. In German with English summ.] WR 134: 70
Shortly after the autumn migration of passerines is under way in August, the two breeding colonies of Eleonora's falcons prey almost exclusively on the migrating birds. Tables are given showing the large numbers of species and individuals identified as victims of the falcons.

Ward, F. Prescott, and David P. Martin. AN IMPROVED CAGE TRAP FOR BIRDS OF PREY. Bird-Banding 39(4): 310-313, 1 fig. Oct. 1968. WR 134: 70
[Med. Res. Lab., Edgewood Arsenal, Md.] Suggests some modifications to the standard bal-chatri trap.--Courtesy/ Paul A. Stewart.

Whitson, Martha A., and Paul D. Whitson. BREEDING BEHAVIOR OF THE ANDEAN CONDOR (VULTUR GRYPHUS). Condor 71(1): 73-75, 1 fig. Jan. 1969. WR 134: 70
[Univ. Okla., Norman.] Contains description and photographs of captive birds during copulation.--Courtesy/ Paul A. Stewart.

Wiley, James W. A CASE OF GREAT HORNED OWL PREDATION ON A PORCUPINE. Condor 71(1): 73. Jan. 1969. WR 134: 70
[Calif. State Coll., Fullerton.] A total of 112 porcupine quills were found in the body of a great horned owl (Bubo virginianus). The bird was emaciated, and some of the wounds were infected.--Courtesy/ Paul A. Stewart.

Wolhuter, Bruce R. SECOND REPORT OF GREAT HORNED OWL PREYING ON SHORT-EARED OWL. Bird-Banding 39(4): 319. Oct. 1968. WR 134: 70
[Univ. Kans., Lawrence.] The part-eaten body of a short-eared owl (Asio flammeus) was found in the nest of a great horned owl (Bubo virginianus).--Courtesy/ Paul A. Stewart.

BLACKBIRDS, STARLINGS, CROWS

Bailey, Zeno E., and Daude N. Griffin. A STUDY OF SELECTED PHASES OF THE LIFE-HISTORY OF THE BOAT-TAILED GRACKLE IN THE COMMERCE (HUNT COUNTY, TEXAS) AREA. Inland Bird Banding News 41(1): 3-11, 1 fig. Jan.-Feb. 1969. WR 134: 70
[Livingston State Coll., Livingston, Ala.] Information is given on nest size, nest height, egg size, clutch size, rate of weight increase of nestlings, and body weight of adults.--Courtesy/ Paul A. Stewart.

Bell, B. D. HOODED AND CARRION CROWS ROOSTING IN REEDS. British Birds 61 (11): 529-530. Nov. 1968. WR 134: 70
"Corvus crone cornix and Corvus c. corone."

Dubois, Charlotte A. GRACKLE ANTING WITH A MOTHBALL. Auk 86(1): 131. Jan. 1969. WR 134: 70
[Princeton, N.J.] "Quiscalus quiscula."--Courtesy/ Paul A. Stewart.

Jones, Howard P. THE COMMON GRACKLE--A NESTING STUDY. Ky. Warbler 45(1): 3-8, 1 fig. Feb. 1969. WR 134: 70
[Rt. 6, Box 119, Frankfort, Ky.] Observations of nests and nest building, eggs, incubation, young and their development, and nesting success of the common grackle (Quiscalus quiscula) gathered from a study of 90 nests are presented. Data were gathered from 28 Mar. 1968 to 1 June 1968 in a rural area of eastern Franklin County, Kentucky.--From summ.

Long, Charles A., and Claudine F. Long. COMMENTS ON REPRODUCTION OF THE COMMON GRACKLE IN CENTRAL ILLINOIS. Wilson Bull. 80(4): 493-494. Dec. 1968. WR 134: 71

[Wis. State Univ., Stevens Point.] Contains observations on nesting dates, clutch size, hatching success, and nestling mortality of 52 Quiscalus quiscula nests.--Courtesy/ Paul A. Stewart.

Weller, Milton W. DISTRIBUTION OF THE YELLOW-HEADED BLACKBIRD IN IOWA. Iowa Bird Life 39(1): 3-4, 1 fig. Mar. 1969. WR 134: 71

[Iowa State Univ., Ames.] Breeding colonies of Xanthocephalus xanthocephalus.

OTHER BIRDS

Britton, P. L. TWO AFRICAN SPECIES PAIRS. Bull. British Ornithol. Club 88 (9): 163-166. Dec. 1968. WR 134: 71

Merops pusillus and M. variegatus in western Zambia, and Tchagra senegala and T. australis in southern and eastern Africa are discussed.

Campbell, R. Wayne, and D. Lorne Frost. ADDITIONAL NOTES ON THE WHITE PELICAN COLONY AT STUM LAKE, BRITISH COLUMBIA. Condor 71(1): 73. Jan. 1969. WR 134: 71

[5536 Hardwick St., Burnaby, British Columbia, Canada.] The breeding population of white pelicans (Pelecanus erythrorhynchos) at Stum Lake in 1964 was estimated at 164 adults, a slight increase over that of 1963.--Courtesy/ Paul A. Stewart.

Castle, Malcolm E. A SURVEY OF ROOKERIES IN AYRSHIRE IN 1966. Scottish Birds 5(4): 196-204, 1 fig. Winter 1968. WR 134: 71

The survey was conducted in late April and early May and covered 204 rookeries containing 17,888 nests.

Dennis, John V. RARE RED-COCKADED WOODPECKER UNDER STUDY AT HOBCAW. Conserv. Catalyst 2(4): 12-14, 1 fig. 1968. WR 134: 71

The red-cockaded woodpecker keeps a coat of sticky resin around its nesting hole, apparently to discourage nest-hole competition from the red-bellied woodpecker.

Emison, William B. FEEDING PREFERENCES OF THE ADÉLIE PENGUIN AT CAPE CROZIER, ROSS ISLAND. Antarctic Res. Ser. 12: 191-212, 12 figs. 1968. WR 134: 71

[Johns Hopkins Univ., Baltimore, Md.] The two common food organisms were Euphausia crystallorophias and a small shoaling fish, Pleuragramma antarcticum.

Ficken, Millicent S., and Robert W. Ficken. TERRITORIAL RELATIONSHIPS OF BLUE-WINGED WARBLERS, GOLDEN-WINGED WARBLERS, AND THEIR HYBRIDS. Wilson Bull. 80(4): 442-451, 1 fig. Dec. 1968. WR 134: 71

[Univ. Wis., Milwaukee.] As measured by territorial-behavior, plumage is more important than song in species recognition by males. Face pattern seemed to be the most important feature in species recognition.--From summ. Courtesy/ Paul A. Stewart.

Fretwell, Steve. HABITAT DISTRIBUTION AND SURVIVAL IN THE FIELD SPARROW (SPIZELLA PUSILLA). Bird-Banding 39(4): 293-306, 1 fig. Oct. 1968. WR 134: 71

[N.C. State Univ., Raleigh.] Field sparrows breed in the wintering area at a higher density than elsewhere but raise fewer young per pair. Birds which bred in their wintering habitat were fatter and had greater chance for survival than non-breeding birds.--From summ. Courtesy/ Paul A. Stewart.

Harrison, C. J. O. NEST-BUILDING BY TRAGOPANS, AN APPEAL FOR INFORMATION. Ornamental Pheasant Trust & Norfolk Wildl. Park Ann. Rept. 1967. p. 22-23. [1968.] WR 134: 72

[14 Dawlish Ave., Perivale, Middlesex, England.] The only Phasianidae known to persistently nest in trees are some of the Tragopan species. The genus might be exceptional in possessing a more specialized building behavior--the deliberate transporting of material to the nest site.

Huxford, Mary Bertha. THE SPARROW THAT LIVED FOR 19 YEARS. Audubon Bull. no. 148. p. 28-30. Dec. 1968. WR 134: 72

"White-throated sparrow."

Linkola, P. [THE NORTHERN THREE-TOED WOODPECKER (PICOIDES TRIDACTYLUS) NESTING IN THE VICINITY OF ACCIPITER GENTILIS NESTS.] Ornis Fennica 44: 21-24. 1967. [From Auk 86(1), 1969. In Finnish with German summ.] WR 134: 72

Maclean, Gordon L. THE NEST AND EGGS OF THE CHOCOLATE TYRANT NEOXOLMIS RUFIVENTRIS (VIEILLOT). Auk 86(1): 144-145, 1 fig. Jan. 1969. WR 134: 72

[Univ. Natal, Pietermaritzburg, South Africa.] The first published account of the nest and eggs for the species.--Courtesy/ Paul A. Stewart.

Nelson, J. B. THE BIOLOGY AND CONSERVATION OF ABBOTT'S BOOBY ON CHRISTMAS ISLAND. IUCN Bull. New Ser. 2(8): 59. July/Sept. 1968. WR 134: 72

Present estimated population of Sula abbotti is not less than 2000 pairs; however, the colony is endangered by calcium phosphate extraction operations which are rapidly destroying available habitat.

Pinowski, Jan. FECUNDITY, MORTALITY, NUMBERS AND BIOMASS DYNAMICS OF A POPULATION OF THE TREE SPARROW (PASSER M. MONTANUS L.). Ekologia Polska--Ser. A 16(1): 1-58, 16 figs. 1968. In English with Polish summ. WR 134: 72

[Inst. Ecol., Nowy Świat 72, Warsaw, Poland.]

Reid, B. E., F. C. Kinsky, H. J. Cranfield, and R. C. Wood. NOTES ON RECOVERIES AND BREEDING BEHAVIOUR OF ADÉLIE PENGUINS OF KNOWN AGE AT CAPE HALLETT. Notornis 14: 140-143. 1967. [From Auk 86(1), 1969.] WR 134: 72

Riegel, Hazel. 20 YEAR OLD GROSBEAK. Audubon Bull. no. 148. p. 30-31. Dec. 1968. WR 134: 72

[Dwight, Ill.] "In captivity."

Root, Richard B. THE BEHAVIOR AND REPRODUCTIVE SUCCESS OF THE BLUE-GRAY GNATCATCHER. Condor 71(1): 16-31, 4 figs. Jan. 1969. WR 134: 72

[Cornell Univ., Ithaca, N.Y.] Territoriality, pair formation, courtship, nest architecture, egg laying, incubation, development of young, parental care, maintenance behavior, interspecific aggression, reproductive success, and behavior in winter are discussed.--Courtesy/ Paul A. Stewart.

Rumsey, Robert L. CAPTURE AND CARE OF PILEATED AND RED-HEADED WOODPECKERS. Bird-Banding 39(4): 313-316, 1 fig. Oct. 1968. WR 134: 72

[Southern Forest Expt. Sta., Alexandria, La.] Adult Dryocopus pileatus and Melanerpes erythrocephalus readily adapted to confinement. Attempts to rear nestling red-headed woodpeckers were successful, but similar attempts with pileated woodpeckers were unsuccessful. Birds were confined in outdoor cages.--Courtesy/ Paul A. Stewart.

Sealy, Spencer G. INCUBATION AND NESTLING PERIODS OF THE HORNED PUFFIN. Condor 71(1): 81. Jan. 1969. WR 134: 72

[Univ. Mich., Ann Arbor.] Incubation periods of Fratercula corniculata were 40-43 days, and the nestling period for one bird was 38 days.--Courtesy/ Paul A. Stewart.

Sincock, John L., and Gerald E. Swedberg. REDISCOVERY OF THE NESTING GROUNDS OF NEWELL'S MANX SHEARWATER (PUFFINUS PUFFINUS NEWELLI), WITH INITIAL OBSERVATIONS. Condor 71(1): 69-71. Jan. 1969. WR 134: 73
[U.S. Bur. Sport Fisheries & Wildl., Koloa, Kauai, Hawaii.] The birds were found nesting in the Moloaa Forest Preserve on Kauai, Hawaii.--Courtesy/ Paul A. Stewart.

Stallcup, Patrick L. SPATIO-TEMPORAL RELATIONSHIPS OF NUTHATCHES AND WOODPECKERS IN PONDEROSA PINE FORESTS OF COLORADO. Ecology 49(5): 831-843, 11 figs. Late Summer 1968. WR 134: 73
[Lewis & Clark Coll., Portland, Oreg.] Pigmy nuthatches foraged most extensively in the foliage of live pine throughout the year. White-breasted nuthatches concentrated their foraging activities on the trunks and large branches of pine. Zones used most extensively by all nuthatches were mutually exclusive at all times. Zones of hairy woodpeckers and Williamson's sapsuckers overlapped in the breeding season. Hairy woodpeckers foraged for arthropods on the surface of trunks and branches of living trees but more extensively for subcortical arthropods of dead trees, stumps and logs. Williamson's sapsuckers foraged almost exclusively for ants on trunks of living pines. In the non-breeding season, hairy woodpeckers foraged almost exclusively on phloem of trunks of living pines. Foraging of red-shafted flickers was confined to the ground and thus segregated from the major foraging zones of other woodpeckers.--From abstr. Courtesy/ Paul A. Stewart.

Stirling, Ian. AN ALBINISTIC ADELIE PENGUIN. Condor 71(1): 78, 1 fig. Jan. 1969. WR 134: 73
[Canterbury Univ., Christchurch, New Zealand.] The "imperfect" albinistic Pygoscelis adeliae retained black feathers on the wings and on the base of the bill.--Courtesy/ Paul A. Stewart.

REPTILES & AMPHIBIANS

Bārthalmus, George T., and Edward D. Bellis. HOMING IN THE NORTHERN DUSKY SALAMANDER, DESMOGNATHUS FUSCUS FUSCUS (RAFINESQUE). Copeia 1969(1): 148-153, 2 figs. 6 Mar. 1969. WR 134: 73
[Pa. State Univ., University Park.] Abstract: Desmognathus f. fuscus were captured in 10-ft zones of a mountain stream, marked, and displaced 100 ft upstream or downstream from the zone of capture or on land 100 ft from the stream; controls were released in the zone of capture. Recaptures in the stream revealed that: the catchability of salamanders displaced in any direction did not differ significantly from controls; the control group and those that returned to the home zones tended to remain there; significantly more downstream-displaced than upstream-displaced salamanders returned to the home zones; many land-displaced salamanders homed but probably did not move directly to the stream by the shortest route; recaptured salamanders were not significantly different in body length from those not recaptured; salamanders that homed were not significantly different in body length from those that did not home. The homing mechanisms are unknown, but probably do not include celestial orientation.

Belusz, Lawrence C., and Roger J. Reed. SOME EPIZOOPHYTES ON SIX TURTLE SPECIES COLLECTED IN MASSACHUSETTS AND MICHIGAN. Am. Midland Nat. 81(2): 598-601. Apr. 1969. WR 134: 73
[Univ. Mass., Amherst.]

Bostic, Dennis L. PARASITES OF THE BAJA CALIFORNIA STRIPED WHIPTAIL, CNEMIDOPHORUS LABIALIS. Herpetologica 25(1): 52. 14 Apr. 1969. WR 134: 73
[Palomar Coll., San Marcos, Calif.]

Brazaitis, Peter. THE OCCURRENCE AND INGESTION OF GASTROLITHS IN TWO CAPTIVE CROCODILIANS. Herpetologica 25(1): 63-64. 14 Apr. 1969. WR 134: 74
[N.Y. Zool. Park, New York.] "Crocodylus acutus and C. rhombifer."

Brown, Herbert A. THE HEAT RESISTANCE OF SOME ANURAN TADPOLES (HYLIDAE AND PELOBATIDAE). Copeia 1969(1): 138-147, 3 figs. 6 Mar. 1969. WR 134: 74
[Western Wash. State Coll., Bellingham.]

Burghardt, Gordon M. COMPARATIVE PREY-ATTACK STUDIES IN NEWBORN SNAKES OF THE GENUS THAMNOPHIS. Behaviour 33(1-2): 77-114, 11 figs. 1969. In English with German summ. WR 134: 74
[Univ. Tenn., Knoxville.] Differences and similarities between the species were found and are discussed in relation to the actual feeding preferences in nature and captivity. For example, the aquatic Thamnophis elegans aquaticus attacked only the extracts made from the salamander larva, the frog, and the three fish; Thamnophis sirtalis also attacked the leech and the three earthworm extracts. It is suggested that the perceptual selectivity shown by naive snakes is an evolutionary response to present and past ecological conditions. The ability of newborn snakes to rapidly acquire food avoidance response was also demonstrated.--From summ.

Bustard, H. Robert, and Colin Limpus. OBSERVATIONS ON THE FLATBACK TURTLE CHELONIA DEPRESSA GARMAN. Herpetologica 25(1): 29-34, 3 figs. 14 Apr. 1969. WR 134: 74
[Australian Natl. Univ., Canberra, Australia.] Appearance, rookery and egg incubation of Chelonia depressa are discussed.

Bustard, H. Robert, and Keith P. Tognetti. GREEN SEA TURTLES: A DISCRETE SIMULATION OF DENSITY-DEPENDENT POPULATION REGULATION. Science 163(3870): 939-941, 2 figs. 28 Feb. 1969. WR 134: 74
[Australian Natl. Univ., Canberra, Australia.] Abstract: Field data on the nesting of the green sea turtle were used to construct a stochastic model. This model was simulated by use of a digital computer language simscript (Monte Carlo) to determine the relation between the percentage of nests destroyed and the size of the turtle population. Nest destruction is dependent on population density and provides a mechanism to regulate population size.

Chabreck, Robert H. THE MOVEMENT OF ALLIGATORS IN LOUISIANA. Proc. 19th Ann. Conf. SE Assoc. Game & Fish Comms. p. 102-110. 1965 [1966]. WR 134: 74
[La. Wild Life & Fisheries Comm., Grand Chenier.] Movement was greater among immature alligators (less than six feet long) than adults. However, no difference was noted in the movement of tagged immature alligators from three to six feet long. Tagged alligators captured and released at the same site moved farther and farther from the site as time progressed. Of those recaptured after three years, 67% dispersed over one mile from the release site. The factors listed as having an effect on natural movement were temperature changes, the breeding season, high water conditions, drought, food supply and water salinity. Tagged alligators transported elsewhere for release moved three to four times greater than normal and showed strong homing instincts. Of those recaptured two years or more after release, 83% had dispersed eight miles or more from the release site.--From summ.

Chabreck, Robert H. METHODS OF DETERMINING THE SIZE AND COMPOSITION OF ALLIGATOR POPULATIONS IN LOUISIANA. Proc. 20th Ann. Conf. SE Assoc. Game & Fish Comms. p. 105-112. 1966 [1967]. WR 134: 74
[La. Wild Life & Fisheries Comm., Grand Chenier.] The methods used for alligators in Louisiana were night counts, recapture of tagged animals, call counts, nest counts and computations based on numerous factors. Night counting is widely used because it is easy to do and provides a size composition of the population. Call counts and nest counts provide information on the breeding population. Applying the "Lincoln Index" to recaptured tagged animals may be

suitable for special studies. A method of total population computations using a combination of night counts, nest counts and data from kill surveys gave the size and the composition of an alligator population.--From summ.

Chabreck, Robert H. THE AMERICAN ALLIGATOR--PAST, PRESENT AND FUTURE. Proc. 21st Ann. Conf. SE Assoc. Game & Fish Comms. p. 554-558. 1967 [1968]. WR 134: 75
[La. Wild Life & Fisheries Comm., Grand Chenier.]

Cott, Hugh B. THE STATUS OF THE NILE CROCODILE BELOW MURCHISON FALLS, 1968. IUCN Bull. New Ser. 2(8): 62-64, 1 fig. July/Sept. 1968. WR 134: 75
Crocodile skins are leaving the Murchison Falls National Park at the rate of about 20 a month: a population of not more than 250 nesting females cannot sustain such a drain. It is self-evident that if poaching is not effectively checked, this last stand of the crocodile in Uganda will be destroyed within three years.--From abstr.

Dickman, Mike. THE EFFECT OF GRAZING BY TADPOLES ON THE STRUCTURE OF A PERIPHYTON COMMUNITY. Ecology 49(6): 1188-1190, 3 figs. Autumn 1968. WR 134: 75
[Univ. Uppsala, Uppsala, Sweden.] The species and standing crop of algal epiphytes on the walls of cages in a small lake were greatly altered following emergence of tadpoles.--Courtesy/ Paul A. Stewart.

Dowling, H. G., Itzchak Gilboa, and Irene Palser. CURRENT HERPETOLOGICAL TITLES, V. Herpetol. Rev. no. 6. p. 7-29. Mar. 1969. WR 134: 75
[Am. Museum Nat. Hist., New York, N.Y.]

Emlen, Stephen T. HOMING ABILITY AND ORIENTATION IN THE PAINTED TURTLE CHRYSEMYS PICTA MARGINATA. Behaviour 33(1-2): 58-76, 7 figs. 1969. In English with German summ. WR 134: 75
[Cornell Univ., Ithaca, N.Y.] Studies of possible orientational cues used during short homing trips indicated the following: (1) Turtles did not tend to orient by simple, positive geotaxis although such downhill movements could have partially explained the homing results. (2) Homeward orientation did not correlate with wind direction at the time of release. Consequently, olfactory cues emanating from the home pond probably are not essential guiding stimuli. (3) Turtles released under conditions of complete overcast continued to display accurate homeward orientation, thereby arguing against the importance of celestial cues. The use of a form of bicoordinate celestial navigation for homing over short distances is further dispelled by a consideration of the extraordinary sensory capabilities required by such hypotheses. (4) When turtles were blindfolded prior to their release, there was a pronounced deterioration both in homeward orientation (random) and in the straightness of the paths traversed.--From summ.

Fogarty, Michael J., and J. David Albury. LATE SUMMER FOODS OF YOUNG ALLIGATORS IN FLORIDA. Proc. 21st Ann. Conf. SE Assoc. Game & Fish Comms. p. 220-222. 1967 [1968]. WR 134: 75
[Fla. Game & Fresh Water Fish Comm., Gainesville.] Abstract: Thirty-six immature alligators (Alligator mississippensis) collected from a canal in the Everglades were examined for information on summer food preferences. A snail (Pomacea paludosa) comprised 65.8% by volume of the stomach contents. Invertebrates accounted for 98.0% by volume of the total stomach contents.

Greene, Harry W. REPRODUCTION IN A MIDDLE AMERICAN SKINK, LEIOLOPISMA CHERRIEI (COPE). Herpetologica 25(1): 55-56. 14 Apr. 1969. WR 134: 75
[P.O. Box 855, Huntsville, Texas.]

Grenot, Cl. ÉTUDE COMPARATIVE DE LA RESISTANCE A LA CHALEUR D'UROMASTIX ACANTHINURUS ET DE VARANUS GRISEUS. [COMPARATIVE STUDY OF THE RESISTANCE TO HEAT OF UROMASTIX ACANTHINURUS AND VARANUS GRISEUS.] Terre & Vie 114(4): 390-409, 8 figs. Oct.-Dec. 1968. In French with English summ. WR 134: 76

The sand monitor (Varanus) is able even in the hottest part of the day to keep its body temperature at a more or less constant level (42°C) for up to 4 hours, in contrast with Uromastix which is not able to do this. Young Uromastix are able to resist heat stress much better than adults.--From summ.

Hardy, Laurence M., and Roy W. McDiarmid. THE AMPHIBIANS AND REPTILES OF SINALOA, MÉXICO. Univ. Kans. Publ. Museum Nat. Hist. 18(3): 39-252, 91 figs. + 8 pls. 4 Apr. 1969. WR 134: 76

[Univ. N. Mex., Albuquerque.] The herpetofauna of Sinaloa consists of 137 taxa, including 131 spp.--From summ.

Hunsaker, Don II, and Bryan R. Burrage. THE SIGNIFICANCE OF INTERSPECIFIC SOCIAL DOMINANCE IN IGUANID LIZARDS. Am. Midland Nat. 81(2): 500-511, 1 fig. Apr. 1969. WR 134: 76

[San Diego State Coll., San Diego, Calif.] The authors suggest that aggression serves as a basic part of territoriality and social hierarchy, and that a continuum exists in social behavior and as space becomes limited, animals will shift from a territorial behavior to a social hierarchy that may include members of other species as well as their own.--From abstr.

Jackson, Crawford G., Jr. AGONISTIC BEHAVIOR IN STERNOTHERUS MINOR MINOR AGASSIZ. Herpetologica 25(1): 53-54. 14 Apr. 1969. WR 134: 76

[Miss. State Coll. for Women, Columbus.] "Agonistic behavior may be of more general occurrence among terrestrial turtles than among aquatic forms. The difference is perhaps more apparent than real, owing to the greater difficulty encountered in making observations on the aquatic species."

Jones, F. K., Jr. TECHNIQUES AND METHODS USED TO CAPTURE AND TAG ALLIGATORS IN FLORIDA. Proc. 19th Ann. Conf. SE Assoc. Game & Fish Comms. p. 98-101, 1 fig. 1965 [1966]. WR 134: 76

[Fla. Game & Fresh Water Fish Comm., Tallahassee.] The most effective method of live capturing alligators is the harpoon. This technique has been used successfully for a number of years. A dip net is used to capture small alligators. Nylon tags attached in the neck by means of "Pop" rivets is used on alligators over five feet long, while tags attached through the tail are used on 'gators under five feet in length.--From summ.

Kitchell, James F. THERMOPHILIC AND THERMOPHOBIC RESPONSES OF SNAKES IN A THERMAL GRADIENT. Copeia 1969(1): 189-191. 6 Mar. 1969. WR 134: 76

[Univ. Colo., Boulder.]

Lee, David S. FLORIDIAN HERPETOFAUNA ASSOCIATED WITH CABBAGE PALMS. Herpetologica 25(1): 70-71. 14 Apr. 1969. WR 134: 76

[20 Linden Terrace, Towson, Md.] Sixteen species of amphibians and reptiles associated with Sabal palmetto.

Licht, Lawrence E. OBSERVATIONS ON THE COURTSHIP BEHAVIOR OF AMBYSTOMA GRACILE. Herpetologica 25(1): 49-52. 14 Apr. 1969. WR 134: 76

[Univ. British Columbia, Vancouver, British Columbia, Canada.]

Martin, A. A. EMERGENCE FROM HIBERNATION IN AN AUSTRALIAN BURROWING FROG. Copeia 1969(1): 176-178, 1 fig. 6 Mar. 1969. WR 134: 76

[Univ. Melbourne, Parkville, Victoria, Australia.] "Limnodynastes dorsalis dumerili."

Mazur, Tadeusz. COSTS OF MAINTENANCE IN RANA ARVALIS NILSS. AT DIFFERENT AMBIENT TEMPERATURES. Ekologia Polska--Ser. A 16(35): 699-704, 1 fig. 1968. In English with Polish summ. WR 134: 77

[Polish Acad. Sci., Turew, Poland.] At varying ambient temperatures energy losses due to respiration in an individual with an average body weight (17 g wet weight) varied from 35 to 885 cal/day. In hibernating individuals the daily maintenance cost was lower by 26.9% than in the active animals at the same temperature.--From abstr.

McGinnis, Samuel M., and Robert G. Moore. THERMOREGULATION IN THE BOA CONSTRICTOR BOA CONSTRICTOR. Herpetologica 25(1): 38-45, 4 figs. 14 Apr. 1969. WR 134: 77

[Calif. State Coll., Hayward.]

Milstead, William W., and Donald W. Tinkle. INTERRELATIONSHIPS OF FEEDING HABITS IN A POPULATION OF LIZARDS IN SOUTHWESTERN TEXAS. Am. Midland Nat. 81 (2): 491-499. Apr. 1969. WR 134: 77

[Univ. Mo., Kansas City.] Predominant food items found in the stomachs of Uta were coleopterans and hymenopterans, and predominant items in Cnemidophorus were coleopterans and orthopterans. Competition between these two numerically dominant species is avoided by utilization of different sizes of food items; small insects for Uta and larger insects for Cnemidophorus. However, interspecific competition for food between the two numerically dominant species and the other species is one possible explanation for the relatively low numbers of the other species.--From abstr.

Modha, M. L. BASKING BEHAVIOUR OF THE NILE CROCODILE ON CENTRAL ISLAND, LAKE RUDOLF. East African Wildl. J. 6: 81-88, 3 figs. Aug. 1968. WR 134: 77

[Kenya Game Dept., P.O. Box 241, Nairobi, Kenya.]

Modha, M. L. CROCODILE RESEARCH PROJECT, CENTRAL ISLAND, LAKE RUDOLF: 1967 BREEDING SEASON. East African Wildl. J. 6: 148-150. Aug. 1968. WR 134: 77

[Kenya Game Dept., P.O. Box 241, Nairobi, Kenya.] "Crocodylus niloticus."

Mueller, Charles F. TEMPERATURE AND ENERGY CHARACTERISTICS OF THE SAGEBRUSH LIZARD (SCELOPORUS GRACIOSUS) IN YELLOWSTONE NATIONAL PARK. Copeia 1969(1): 153-160, 2 figs. 6 Mar. 1969. WR 134: 77

[Slippery Rock State Coll., Slippery Rock, Pa.]

Mueller, Charles F., and Robert E. Moore. GROWTH OF THE SAGEBRUSH LIZARD, SCELOPORUS GRACIOSUS, IN YELLOWSTONE NATIONAL PARK. Herpetologica 25(1): 35-38, 1 fig. 14 Apr. 1969. WR 134: 77

[Slippery Rock State Coll., Slippery Rock, Pa.]

Poynton, J. C. AMPHIBIA OF NORTHERN MOZAMBIQUE. Memórias Inst. Investigacão Cientifica Mocambique 8, Ser. A. p. 13-33, 2 figs. 1966. WR 134: 77

[Univ. Witwatersrand, Johannesburg, South Africa.] Thirty-six forms of Anura are listed.

Pritchard, Peter C. H. SEA TURTLES OF THE GUIANAS. Bull. Fla. State Museum Biol. Sci. 13(2): 87-140, 29 figs. 6 Mar. 1969. Price 85¢. WR 134: 77

[Univ. Fla., Gainesville.] A summarization of investigations of turtle nesting beaches in the Guianas during 1964-1968.

Rand, A. Stanley, and Edward P. Ortleb. DEFENSIVE DISPLAY IN THE COLUBRID SNAKE PSEUSTES POECILONOTUS SHROPSHIREI. Herpetologica 25(1): 46-48, 1 fig. 14 Apr. 1969. WR 134: 77

[Smithsonian Trop. Res. Inst., Balboa, Canal Zone.]

Roberts, Lou Anne. OXYGEN CONSUMPTION IN THE LIZARD UTA STANSBURIANA. Ecology 49(5): 809-819, 9 figs. Late Summer 1968. WR 134: 78
[Texas Technol. Coll., Lubbock.] The following topics are discussed: minimum night metabolism, stabilization of oxygen consumption in the laboratory, effect of size, activity, temperature, and season on oxygen consumption.--Courtesy/ Paul A. Stewart.

Schaefer, G. C. SEX INDEPENDENT GROUND COLOR IN THE TIMBER RATTLESNAKE, CROTALUS HORRIDUS HORRIDUS. Herpetologica 25(1): 65-66, 1 fig. 14 Apr. 1969. WR 134: 78
[Univ. Richmond, Richmond, Va.]

Schoener, Thomas W., and George C. Gorman. SOME NICHE DIFFERENCES IN THREE LESSER ANTILLEAN LIZARDS OF THE GENUS ANOLIS. Ecology 49(5): 819-830, 14 figs. Late Summer 1968. WR 134: 78
[Harvard Univ., Cambridge, Mass.] Courtesy/ Paul A. Stewart.

Schwartz, Frank J. MARYLAND TURTLES. Univ. Md. Natural Resources Inst., Educational Serv. no. 79. 38 p., illus. 1967. WR 134: 78
[Chesapeake Biol. Lab., Solomons, Md.]

Sokol, Otto M. FEEDING IN THE PIPID FROG HYMENOCHIRUS BOETTGERI (TORNIER). Herpetologica 25(1): 9-24, 8 figs. 14 Apr. 1969. WR 134: 78
[N. Dak. State Univ., Fargo.]

Tilley, Stephen G. VARIATION IN THE DORSAL PATTERN OF DESMOGNATHUS OCHROPHAEUS AT MT. MITCHELL, NORTH CAROLINA, AND ELSEWHERE IN THE SOUTHERN APPALACHIAN MOUNTAINS. Copeia 1969(1): 161-175, 7 figs. 6 Mar. 1969. WR 134: 78
[Univ. Mich., Ann Arbor.]

Weintraub, Joel D. SIZE RELATIONSHIPS OF THE GRANITE SPINY LIZARD, SCELOPORUS ORCUTTI. Herpetologica 25(1): 25-29. 14 Apr. 1969. WR 134: 78
[Calif. State Coll., Fullerton.]

Whitaker, A. H. THE LIZARDS OF THE POOR KNIGHTS ISLANDS, NEW ZEALAND. New Zealand J. Sci. 11(4): 623-651, 7 figs. Dec. 1968. WR 134: 78
[DSIR, Lower Hutt, New Zealand.]

Wilson, Vivian J. THE LEOPARD TORTOISE, TESTUDO PARDALIS BABCOCKI, IN EASTERN ZAMBIA. Arnoldia 3(40): 1-11, 1 fig. 1 Sept. 1968. WR 134: 78
[Natl. Museum, Bulawayo, Rhodesia.] Distribution, size and weight, reproduction, body growth, and home range and movement of Testudo pardalis babcocki.

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Manuscript for this issue was completed 18 July 1969

* U.S. GOVERNMENT PRINTING OFFICE : 1969 O—359-231

As the Nation's principal conservation agency, the Department of the Interior has basic responsibilities for water, fish, wildlife, mineral, land, park, and recreational resources. Indian and Territorial affairs are other major concerns of this department of natural resources.

The Department works to assure the wisest choice in managing all our resources so that each shall make its full contribution to a better United States now and in the future.

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